

# TERMINAL SOFTWARE

## commodore of games cassettes

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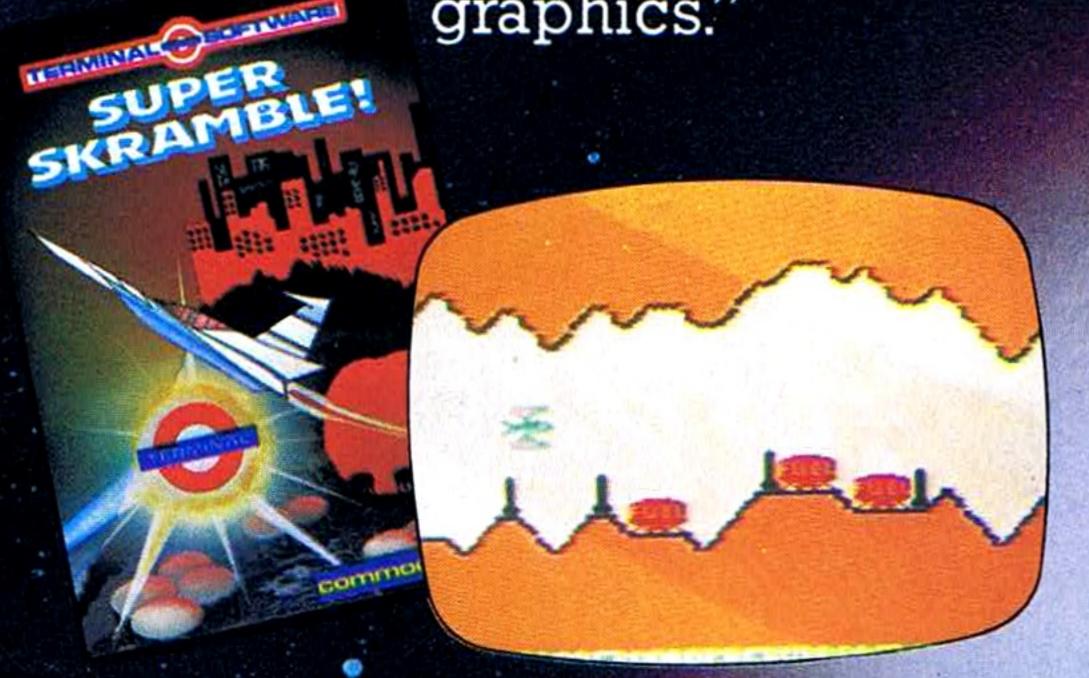
TERMINAL

## SUPER SKRAMBLE!

Personal Computer News (15-21 Sept'83) gave SUPER SKRAMBLE! an overall rating of NINETEEN OUT OF TWENTY and described it as: "Well implemented with beautifully smooth scrolling and very nice graphics."



"... a compelling piece of frivolity that could give hours of fun." was the verdict of Personal Computer News (22-28 Sept '83).



## SUPER SKRAMBLE!

"An excellent game" said Computer Video Games magazine (Sept'83).



## SUPER DOGFIGHT

The first of games cassette to have SIMULTANEOUS TWO-PLAYER ACTION - realistic sound effects too.

## STELLAR DODGER

A game of skill and anticipation in which you must dodge your way throughasteroids to complete your mission.



## Spectrum 48K

## HUNTER

A fast action game in which your pursuers gain in speed and intelligence as you mastereach successive screen.



graphic adventures and every game is different from the one before.

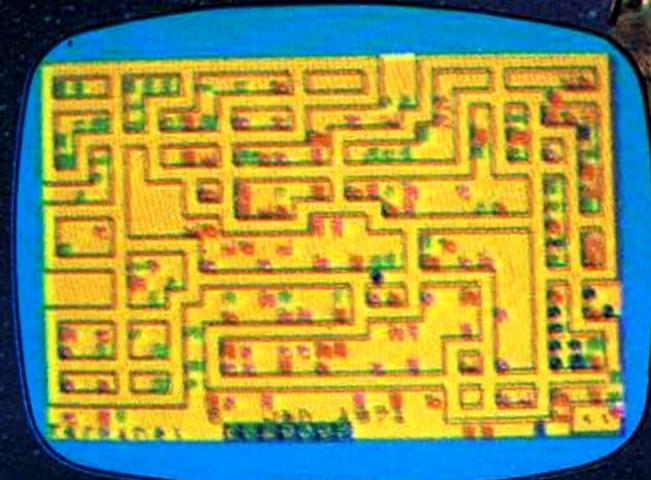




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better-than-a-board game for 1-4 players that combines simplicity of

use with complexity of form as the city you build takes on a life of its own.





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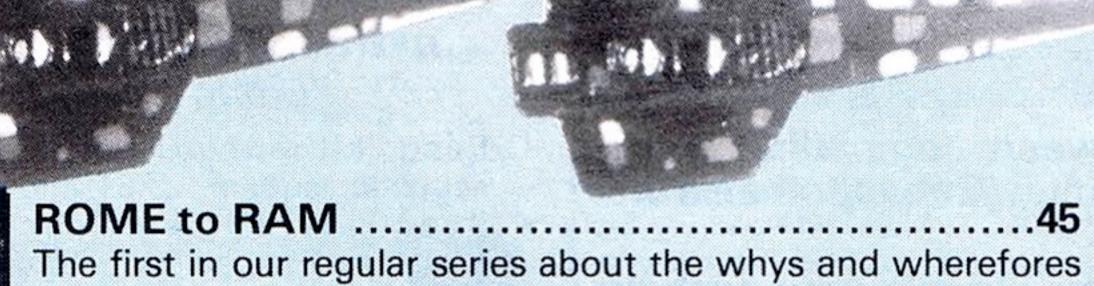


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Fisherman Fred
SOFTWARE NEWS
Asteroid Chase
FEATURE Joystick Jitters
Toys in Store
COMPETITION Puzzle Page
Holy Grail
ROME to RAM



of wargames.

Video Vying ......49 A variety of video games reviews to whet your appetite computer games aren't the only type of game you can play.

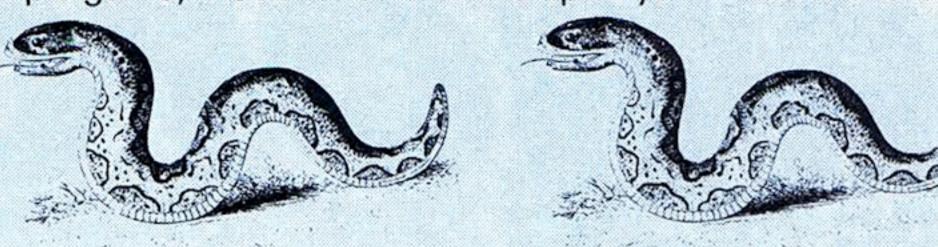
COMPETITION Win a Vectrex Games System ... 51 Who needs the likes of Christmas when you can win a Vectrex games centre with only a few minutes thought to it.

FREE PULL-OUT POSTER Moon Rescue .......... 53 Man the moon fleet and rush to rescue the stranded astronauts in this game for the Spectrum — and don't forget to pull out and keep your own colour poster that goes with the game.

Laser Practice	60
Great guns to grapple with in this exciting	game when only a
team tough will survive.	

SOFTWARE REVIEWS..... Four pages of new, and nearly new games for many computers reviewed by our critical gamesters.

Snake Trap ..... Rats, rats, who said rats? Whoever's playing this annoyingly simple game, that's who! And it's up to you to eat the rats up.



Invasion 64 ..... /U Green meanies go mad in this game for the Commodore 64 and if you don't fancy typing it on your keyboard you can take the coward's way out any buy it from Games Computing on tape.

Meanies Munchies......74 Make a meal of this version of the ever popular pac-man game, but — watch out, — it's against the clock. Double trouble!

Sheepdog Trials.......78 Old Farmer Giles' sheep are causing havoc in the pastures while poor old Ben the sheepdog is hopping all over the place. Help him earn his dinner.

Runaway Robot......83 Get your teeth into this great game and save the SPAM centre from doom.

Westminster ..... Try out a politician's life style in a power game on your Oric.

MACHINE CODE PROGRAMMING.....9

The computer games fans' answer to faster, better games.

COMPETITION ......98 Write a game for Visions Software Factory.

It's not as bad as it sounds! See for yourself — but be careful.

**Editor** Elspeth Joiner Editorial Assistant Jane Price Software Assistant Simon Rockman Advertisement Manager Sue Jensen Advertisement Executive Julie Bates Managing Editor Ron Harris Chief Executive T J Connell Origination and Design MM Design & Print Cover Illustration Paul Desmond Editorial/Advertisement Telephone: 01-437 1002

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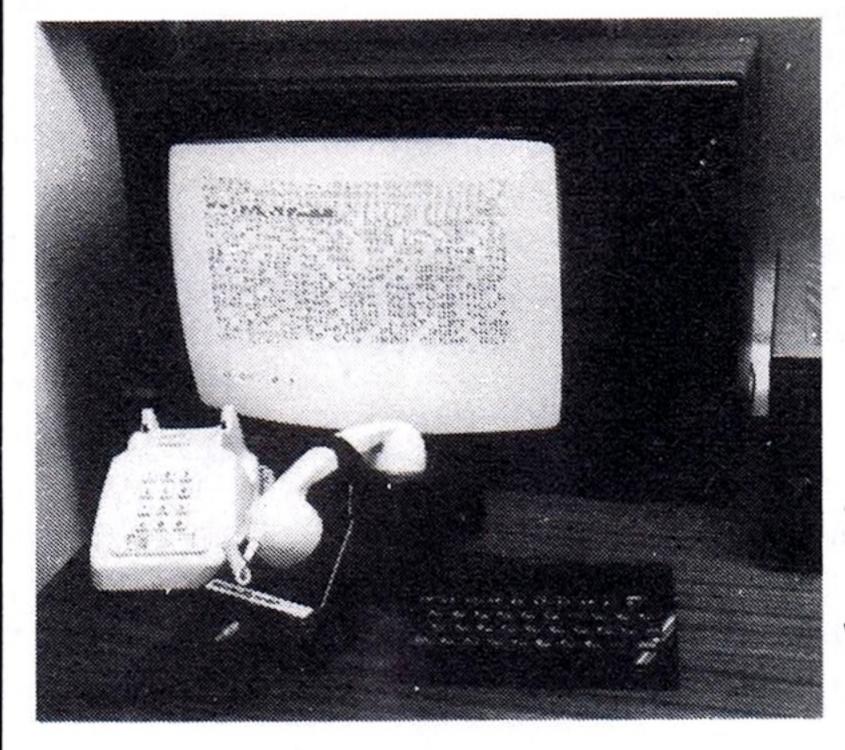
Subscription rates.

UK £12.25 including postage. Airmail and other rates upon application to Games Computing, Subscriptions Department, 513 London Road, Thornton Heath, Surrey CR4 6AR.

## ATTENTION!

- all ZX81 (16K) and Spectrum (48K) users - get this, the . . .

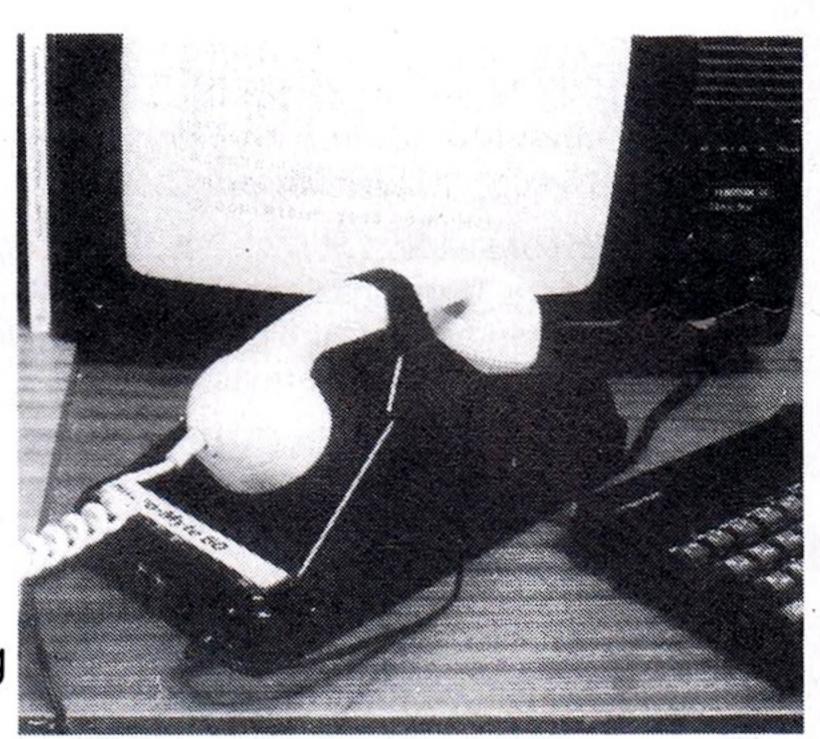
# Micro-Myte



6

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Each kit comprises an acoustic modem, ZX81 and Spectrum software on cassette, connection cable and operating instructions, together with a twelve month guarantee.

## STOP PRESS!

Micro-Myte 60 will operate with all makes of home computer software available soon

YOU CAN NOW TRANSMIT AND RECEIVE OFF TAPE! Deep in the galaxy of computer games lurk vast numbers of keen gamesters waiting with baited breath for all they can possibly glean about breaking games frontiers. But there was a huge void. Until . . . GAMES COMPUTING!

A magazine for those who take computer and video games seriously. Packed full of programs for you to play around with and key into your own machine, news of the latest games to be released for you to break high-score barriers with, reviews of all kind of games from space

So what we at *Games Computing* want you to do is give our Runaway Robot a name. In future issues of *Games Computing* he'll be popping up all over the place throughout the magazine. In this issue you'll find him running amok on the pages devoted to the Spectrum program of the same name.

If you want to enter this competition for a bit of fun and a giggle why not turn to the program called Runaway Robot and read it thoroughly. That will give you an idea of our Mr Robot's character and If you want to enter the competition you must accompany your entry with the coupon cut from the corner of this page. I'm afraid the riotous Runaway Robot is making his mark on *Games Computing* already and insists that you cannot send in a photocopy of the coupon. Sorry lads.

So, put your pens into action — we're all waiting eagerly in the offices for the names to pour in and save our Runaway Robot from a life of gloom and doom. He's waiting for you. . . .

favourites, alien blasting bombarding, adventures in haunted castles with goblins and ghouls, strategy games for the more serious, and all your arcade favourites.

## Wargames and Competitions

Wargamesters can have fun and games each month with out great series on the subject. It kicks off in our launch issue with the background behind the birth of wargaming, so if you are not yet one of the topic's devotees you may well end up being one if you stick to our series.

In the months to come *Games Computing* will make sure your computer and video gaming is nothing but fun all the way. There'll be competitions — take this month's for a start. Win a **Vectrex** games console and have your own game produced and sold by up-and-coming software firm **Visions**.

## Runaway Robot Needs a Name

That forlorn looking creature on the front cover of *Games Computing* has lost his marbles — but only temporarily. And now that he's found his new home in the pages of our magazine he desperately needs a new name. After all, no self respecting robot would wander the games galaxy without a proper name — take those two endearing androids R2D2 and C3PO, who leapt to the hearts of many a nation in the great film Star Wars.

could help you think of a witty yet appropriate name for him.

To enter the competition just send your chosen name to the Editor, Games Computing, 145 Charing Cross Road, London WC2H 0EE. All entries must be received by January 31, 1984 (seems like light years away) and please mark clearly on the envelope RUNAWAY ROBOT COMPETITION. If you don't, your entry is likely to get mixed up with other competition entries and our runaway robot could miss out on the name of the century!

## More More More

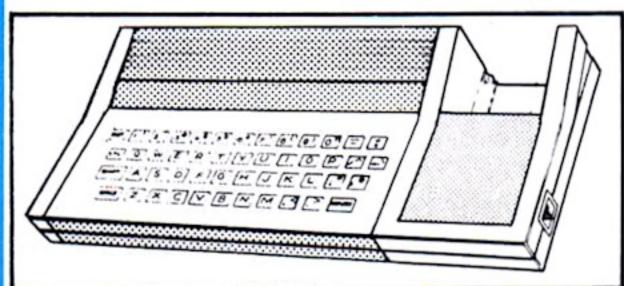
If you flick to the centre pages of *Games Computing* youy'll see a super colour poster which you can pull out and keep. Stick it up wherever you want (and I don't want any rude suggestions) — on your bedroom wall, or perhaps somewhere suitable at school, but don't forget to ask for permission first.

And each month we'll give you a different, bright poster illustrating one of the games published in *Games Computing* — so make sure you get your copy of *Games Computing* regularly each month and don't miss out on this great opportunity.



## FOMECOMPUTERS

## 20k AQUARIUS ATARI 400/800



AQUARIUS: The brand new Aquarius Personal Computer is part of Mattel Electronics latest developments in advanced technology and offers full home computing facilities, as well as extensive game play, using a very wide range of plug in cartridges. Since Aquarius is a Mattel Electronics product, it benefits by the company's wide experience of producing high

technology equipment, as well as their game programming expertise which is evident from the advanced games which have been produced for the Intellivision. Aquarius costs £49 and comes with microsoft basic built in. It is so simple to use that you'll be writing your first programs within minutes of taking the machine out of its box. You can even record the programs on your own cassette recorder at home, so you can use them again at a later date. Most available domestic tape recorders are compatible with the Aquarius.

A POWERFUL MACHINE: For all it's simplicity, it is also very sophisticated. It has a Z80A processor and it comes with 8K of built in ROM and 4K of RAM, expandable to 52K. It has a display of 40x 24 characters, and a graphic resolution of 320x 192 with a total character set of 256 (including the complete ASCII set with upper and lower case letters, numbers and additional graphic symbols). The keyboard has 49 full stroke moving keys, unlike some of the cheaper machines which have membrane keyboards. The size of the machine (excluding any of the additional peripherals), is 13"x6"x2".

PERIPHERALS: It is very easy to increase the capabilities of your Aquarius as all the peripherals plug straight into one another. You can add a Printer, a Modem, a Data Recorder, Mini Expander and other items. All of the peripherals are very easy to install and what is more, they're easy to use. But the best news of all is, they're easy to afford.

CPM OPERATING CAPABILITY: The Aquarius is capable of being expanded to 52K RAM and later in 1983 a disk drive will be available for it, with the commercial CPM business operating system. This will allow you access to one of the largest software libraries in the world, with literally hundreds of programs available for you to use.

**CARTRIDGES:** Various sophisticated programs have been launched on plug in cartridges such as a Visicalc spreadsheet and a word processor. Other cartridges include popular Intellivision titles and are available for as little as £12.95.

4K Mattel AQUARIUS — £42.61 + VAT = £49 2 4 9 20K Mattel AQUARIUS — £67.83 + VAT = £78



#### NEW LOW PRICES

ATARI 400/800: With the Atari Personal Computers, you can play the ultimate in T.V. games, teach yourself new subjects or skills, balance budgets, and even write your own computer programs in Basic.

SPECIFICATIONS: Both the Atari 400 and 800 can display in up to 16 colours, each with 16 intensities. They have four independent sound synthesizers for music tunes/game sounds, giving four octaves with variable volume and tone control on your T.V.'s speaker. The display graphics

are of amazing quality, having a detailed resolution of 320 x192, comprising 24 lines of 40 characters. Atari personal computers have a standard 10K ROM operating system. In addition to this the standard Atari 400 (£99) comes with 16K of RAM and the expanded version with 48K (£158). The Atari 800 (£249) comes with 48K as standard. Both the 400 and 800 are now supplied with a FREE £40 Basic Programming Kit, which includes the Basic Programming Cartridge, as well as a 120 page Basic Reference Manual and the 184 page Self Teaching Manual by Bill Carris called 'Inside Atari Basic', so you can begin programming straight away, without buying any 'extras'. Even a mains plug is supplied!

OVER 500 PROGRAMS AVAILABLE: The Atari computers are supported by well over 500 programs available for your use, a larger selection than you will find on any other television game or home computer! The wide selection puts Atari way ahead of the competition. Just fill in the coupon and we will be pleased to send you a full price list which gives details of our range of software available for entertainment, home education, programming and home office use. We think you'll agree when we say it's quite impressive.

100 FREE PROGRAMS FROM SILICA SHOP: If you buy your Atari 800 from Silica Shop, you will receive a FREE presentation pack of 6 cassettes containing 100 programs, including games, utilities and demonstrations. Unfortunately, because of the low price at which we are offering the Atari 400, we are unable to give the programs with both machines. However, as a special offer, we are selling the programs to purchasers of the Atari 400 for only £14.95, less than half of the recommended retail price of £30. Silica Shop offer a TWO YEAR GUARANTEE on both Atari 400 and 800 home computers.

ATARI 400 With 16K - £86.08 + VAT = £99ATARI 400 With 48K — £137.39 + VAT = £158 ATARI 800 With 48K — £216.52 + VAT = £249

## COLECOVISION



THE SYSTEM: The CBS Colecovision offers new standards in video game play. The excellent graphics are well implemented with arcade titles such as Zaxxon, Lady Bug, Gorf, Wizard of Wor, Carnival, Mouse Trap and the lovable Smurfs. The console comes supplied with a three screen arcade quality version of DONKEY KONG. Parker and other companies have also announced ranges of cartridges for Colecovision, to further enhance the wide range of quality titles available for this new television games machine.

THE CONSOLE: The CBS Colecovision video games system has advanced technology which produces superlative graphics resolution and excellent sound effects. The styling of the console and hand controllers has been carefully researched; the console is designed to complement modern hi-tech equipment, and has clear features for easy operation. The hand controllers allow fingertip control via the 8 direction joystick, and feature 2 independent fire buttons. The push button keyboard is used for game selection and for game control with some cartridges. The hand controllers are detachable and are connected to six feet of telephone coil cable, storing neatly away in the console when not in use.

ATARI EXPANSION MODULE: The Atari converter module allows Atari VCS software cartridges to be played on the Colecovision console, allowing owners the freedom to purchase from the extensive range of Atari compatible cartridges. It also means that existing Atari owners can buy the CBS Colecovision games system without discarding their software library. Silica Shop offer part exchange facilities if you wish to upgrade.

TURBO EXPANSION MODULE: The Turbo Driver Expansion Module allows you to actually drive the vehicle that appears on your T.V. screen. The module consists of a steering wheel, dashboard and accelerator pedal. One hand controller is mounted on the dashboard to provide a gear change unit. The module comes complete with a Turbo Driver cartridge, the first of several cartridges to make use of the module, which provides all the action of sitting in the driving seat. This facility is unique to CBS Colecovision.

HOME COMPUTER EXPANSION MODULE: The Home Computer Module scheduled for late 1983, allows conversion of the games unit into a

sophisticated Home Computer. This flexibility of design is an important feature of the CBS Colecovision System.

COLECOVISION - £127.82 + VAT = £147

#### WHO ARE SILICA SHOP?

Silica Shop are one of the leading specialist suppliers of Video Games & Personal Computers. We consider that our service, to those who already own or to those who are interested in any products in our range, cannot be matched by any other supplier. Just look at what we have to offer:

SHOP DEMONSTRATION FACILITIES - we provide full demonstration facilities at our shop in Sidcup, so that you can get 'hands on' experience of our range. SHOP OPENING HOURS - we are open from Monday to Saturday 9 am - 5.30 pm, but close at 1 pm on Thursday's and 8pm on Friday's. MAIL ORDER - we are a specialist mail order company and are able to supply goods direct to your door at no extra cost.

FREE FIRST CLASS DELIVERY - all orders are sent Post and Packing FREE, most of them being despatched by FIRST CLASS POST within 24 hours of us receiving your order details. If you require overnight delivery, this can be arranged at a charge of £3 for items under £50, or alternatively £5 for items over £50. MONEY BACK UNDERTAKING - if you are totally dissatisfied with your purchase, you may return it to us (in good condition) within 15 days for a full refund. PART EXCHANGE - we will offer you up to one third of our current selling price in part exchange on your old Mattel Intellivision or Atari console (and related cartridges), if you decide to buy a new video game or personal computer from us.

SECONDHAND GOODS - we sell secondhand Mattel & Atari consoles/cartridges (with a full 1 year guarantee), at two thirds of our normal retail price. COMPETITIVE PRICES - both our prices and service are very competitive. We are never knowingly undersold and will normally match any bona fide price quoted by our competitors, providing they actually have the goods in stock. We will also send the order to you post and packing free! HELPFUL ADVICE - our specialist sales staff are always available to give you advice on the suitability of various computers or T.V. games.

SERVICE/REPAIRS - are available on all machines in our range, often utilising our in house service facilities. We will support your machine long after you buy it. ATARI SERVICE CENTRE - we are now an authorised Atari service centre and can therefore accept repairs on all Atari equipment (TV Games and Computers) even if you did not originally purchase it from Silica Shop. All repairs during the manufacturers 1st year warranty period will be completed FREE OF CHARGE. 2 YEAR GUARANTEE - we offer a 1 year extension on some manufacturers 12 month guarantee, including Atari Personal Computers.

VIDEO GAMES AND COMPUTER CLUBS - we offer a full information service on all video games and computers in our range. Advanced information on many new developments is often included, so you are always kept informed. We now issue regular newsletters on software releases so make sure that you join our club. OVERSEAS ORDERS - we regularly send goods overseas and use various despatch services. Please let us know your requirements and we will give you a quotation. PAYMENT - we accept Access/Barclaycard/Visa/American Express/Diners Club credit cards, as well as cash, cheques, postal orders, COD or Post Office Transcash. \* CREDIT FACILITIES - we also offer credit facilities with varying payment over 12, 24 or 36 months. Please send for our FREE literature and a written quotation.

## VECTREX



THE SYSTEM: Vectrex is a totally unique Home Arcade System, which has been exclusively designed and engineered to duplicate real arcade game play. Complete with its own monitor display, Vectrex won't cause any arguments over the use of the family's television because it has its own built in screen.

THE SCREEN: Vectrex does not use ordinary display techniques, instead it uses vector scanning to control the images on the screen. With this scanning method, the gun only updates the area of the screen that has changed, whereas a normal T.V. re-transmits the ENTIRE screen 50 times a minute. It is this that gives Vectrex its speed, and means that very little computer power is required for screen control, and the results provide very fast responding and clear images. These 'Vector Graphics' are used in several arcade games such as Asteroids and Battlezone, to give you incredibly high resolution and quality. Vectrex brings all of this from the arcade right into your living room. The Vectrex screen is capable of displaying 80 columns by 40 lines, which is significant to the extensive developments planned for the system.

**EXCITING SOUNDS AND ELECTRONICS:** Vectrex has an advanced microprocessor with more speed and power and exciting effects than many home video games systems.

REAL ARCADE CONTROLS: Vectrex has a unique control panel, similar to those used in many real arcade games, with 4 concave action buttons and a full 360° self centering joystick. This control panel has a 4 foot detachable cord for maximum player freedom.

REAL ARCADE GRAPHICS: Vectrex has its own 9 inch vertical screen and unlike a conventional T.V. screen, uses advanced display technology to achieve brilliant, high resolution imagery and superb game play never before possible. The Vectrex display provides special effects too, such as 3-D rotation and zooming in and out, which a regular T.V. cannot match. Using a black and white monitor, each Vectrex game comes supplied with its own coloured plastic screen overlay to add to the excitement of game play. The range of Vectrex cartridges (£19.95 each), gives a good selection of arcade games such as Berzerk, Scramble, Rip-Off and Bomber Attack. Vectrex comes complete with a fast paced 'Minestorm' game built into memory.

VECTREX: Vectrex has an advanced state-of-the-art microprocessor with more speed than other T.V. games.

VECTREX - £112.17 + VAT = £129.00

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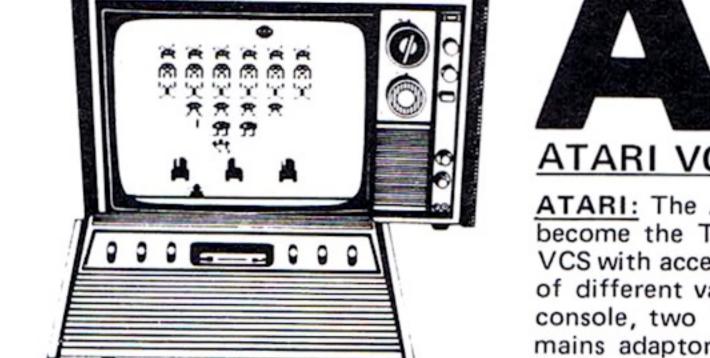
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Spider Fighter Phoenix Pinball Stampede Starmaster Pole Postn Tennis Raiders of L/A Sky Diver Slot Racers Soccer Space Invaders Space War Star Raiders Street Racer Space Chase Superman



ATARI VCS (2600) - THE NO 1 BRAND LEADER IN THE U.K.

ATARI: The Atari Video Computer System known as the Atari VCS or the 2600 has now become the T.V. game brand leader. In the U.K. there are over 700,000 owners of the VCS with access to a range of over 200 different plug in cartridges, each having a multitude of different variations and difficulty levels. Every system comes complete with the main console, two individual joystick controllers, a pair of paddle controllers, aerial splitter, mains adaptor, a 27 game Combat cartridge and a FREE PAC-MAN cartridge, which is worth £29.95. The console also incorporates special circuits designed to protect your T.V.

SECONDHAND GAMES: We currently have several secondhand Atari VCS units in stock which we are selling for only £39 (inc VAT). This price includes the Console, with Combat

Cartridge and all the accessories, as well as a 12 month guarantee. We also have stocks of several secondhand cartridges many at half price (all with 12 month guarantee). We will normally buy back secondhand units and cartridges at ¼ of our normal selling price.

EXTENSIVE CARTRIDGE RANGE: The Atari VCS is so popular that in addition to Atari's own cartridges, there are over 150 compatible cartridges, produced by at least a dozen different third party manufacturers. Silica Shop has one of the largest cartridge selections available in the U.K. Our range of

over 200 titles (printed either side of this column), includes items in stock now, as well as many of the new releases for later in 1983. SILICA ATARI CLUB: Silica Shop has over 20,000 Atari VCS club members registered on our computer. As a specialist company we are able to obtain advance information about new developments and send detailed catalogues to all of our club members, enabling

them to evaluate new products before they buy. This is a totally FREE service, to receive your copies complete the coupon below. SERVICE CENTRE: Atari International (UK) Inc has recently appointed Silica Shop as an authorised Atari Service Centre. This means that we can now service your Atari VCS or 400/800 (under guarantee if applicable), whether or not you purchased it from us.

VCS COMPUTER KEYBOARD: A keyboard will soon be launched to convert the VCS into a fully programmable home computer. For further details, join our club by completing the coupon below. We will then let you know when further information is available.

STARPATH SUPERCHARGER: The Supercharger costs only £29 and plugs into the cartridge socket of your VCS and expands its RAM almost 50 fold, from 128 to 6,272 bytes. This increased memory adds vivid high-resolution graphics capabilities and significantly lengthens the game playing time. Supercharger has a range of £17.95 multi-load games offering the facility to

play a game in several distinct parts (great for adventures), the next section being loaded only when you have completed the previous one. For a detailed Supercharger colour catalogue please complete the coupon below.

ATARI VCS CONSOLE - WITH COMBAT AND PAC-MAN £60 + VAT = £69

ATARI/Contd Super Brkout Surround Swordquest E Swordquest F Tennis (rlspt) Vanguard Volleyball (r/s) Warlords

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Dem. Attack II Dragonfire Fire Fighter No Escape Riddle of Spx Scuba Starstorm Star Voyager Trick Shot

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PARKER Action Force Amidar

PARKER/Con Emp Strks Bk Frogger Incredible Hulk James Bnd 007 Jedi Arena Lord of Rings Popeye Q-Bert Reactor Rtn of Jedi 1 Rtn of Jedi 2 Sky Skipper Spiderman Super Cobra

SPCTRVSION Chall of Nexar China Syndrme Cross Force Gangster Alley Glactic Tactic Mangia Master Builder Planet Patrol Tage Worm

Tutankham

Comunst Mut Dragonstmper Escape from M Killer Satellite Phaser Patrol Suicide Mission

TELESYS Coconuts Cosmic Creeps Demoltn Herby Fast Food Ram - It

**TIGERVISION** Jawbreaker King Kong Marauder Miner 2049er Polaris River Patrol Threshold

ZIMAG Cosmic Coridor Dishaster Immies & Aggs I want my Mom Pizza Chef Quest for Gold Tally Ho Tanks no Tanks

## ACCESSORIES

We stock a wide range of accessories for the Atari VCS and 400/800 personal computers. The same accessories can be used on the Commodore VIC range of computers. The Wico range can also be used with the Texas Instruments computers on purchasing a special adaptor. To give you an idea of the range available, just take a look at the following list:



LE STICK: A mercury filled joystick specially made for one handed operation, with thumb fire button.

QUICK - SHOT: This joystick features a contoured handle grip, thumb trigger and optional base fire button. It is supplied with 4 sure foot suction grips.

STARFIGHTER: Neat and compact with a small direction stick. Metal interior for added strength.

VIDEO COMMAND: With a tapered handle, this joystick is for one handed use. It has a directional control which is similar to a jet fighter joystick.

WICO RED-BALL: An arcade type joystick with a red ball handle, it features 2 fire button locations, one at the base and one on the stick. It comes supplied with 4 grip pads for easier table top use.

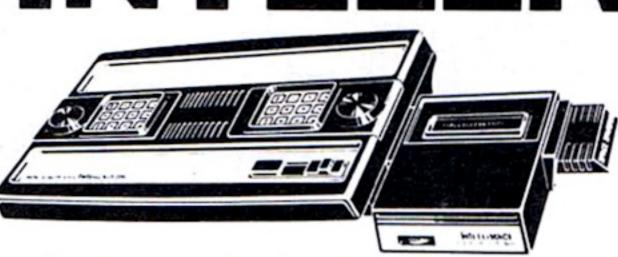
WICO STRAIGHT - STICK: The main feature of this joystick is its arcade style, bat handle grip. It also has 2 fire buttons. Four grip pads included for table top use.

WICO TRACKBALL: A true arcade style trackball for use with your Atari or Commodore VIC. This product is designed to give arcade control in your living room.

12' EXTENSION LEAD: A 12' extension for Atari and Atari compatible joysticks for greater player freedom.



## MATTEL INTELLIVISION



MATTEL INTELLIVISION: Mattel games unit is a most versatile T.V. game which offers 3-D graphics quality for only £98. Each cartridge comes with 2 overlays which fit over the unique hand controller giving easy directions for game play. Using the handset's control disc, objects

can be manoeuvred in 16 directions to give an accurate simulation of lifelike movement. From 1st September 1983, the Mattel Intellivision T.V. Games Console will come with a voucher which entitles you to claim a FREE VOICE SYNTHESIS MODULE, normally priced at £50. This unit creates voices as part of game play on certain cartridges.

NEW MATTEL CARTRIDGE RELEASES: Why not complete the coupon below and join the Silica Mattel Owners Club and receive our FREE news bulletins and 16 page catalogues detailing new Mattel releases. There will soon be over ninety cartridges available for the Mattel, and a small selection from these is listed below:

MATTEL: Arctic Squares, Burger Time, Buzz Bombers, Chess, Cloudy Mountain, Loco Motion, Mission X, Mystic Castle, Sharp Shot, Solar Sailor, Space Shuttle, Vectron, Winter Olympics. ACTIVISION: Happy Trails, Pitfall, Stampede. C.B.S: Blue Print, Carnival, Donkey Kong, Gorf, Mousetrap, Smurf, Solar Fox, Turbo, Venture, Wizard of Wor, Zaxxon. IMAGIC: Beezer, Dracula, Ice Trek, Nova Blast, Safecracker, Swords & Serpents, Tropical Trouble, White Water. PARKER: James Bond 007, Lord of the Rings, Popeye, Q-Bert, Spiderman, Star Wars, Super Cobra, Tutankham.

COMPUTER KEYBOARD: In November 1983, Mattel will be launching their new £89, 49-key computer keyboard attachment called 'LUCKY' which is fully programmable and has microsoft basic built in. It will transform your Master Component into a home computer. The adaptor also accepts a 6 note polyphonic music synthesiser and full size 49-key piano keyboard that will make

MATTEL + VOICE - £85.22 + VAT = £98.00

learning music as easy as playing games.

## VIDEO GAME CLUB

In a fast moving market like video games, it is difficult to keep up to date with all the developments that take place. With new programmes and accessories being introduced at a fast rate by several different manufacturers, it is impossible to get all the information you require from one manufacturer alone. It is for this reason, that we have set up owners clubs for the more popular video games and home computers, to keep you fully up to date with what is going on with your particular machine. As far as we know, Silica Shop are the only company to offer such clubs, but that is not surprising since we are the specialists. We currently have FREE clubs for the Atari VCS, Atari 400/800 home computers, and Mattel Intellivision. Soon we will have clubs for Colecovision, Aquarius and Vectrex. So if you own one of these machines, fill in the coupon opposite, and we will enrol you FREE OF CHARGE in the club relevant to your computer or video game.



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## ELITERATURE

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ITERATURE

Minefield is a program based around a very simple idea. All you have to do is cross the minefield, but this is not as easy as it may at first seem.

For a start, all the mines are hidden. The solution for this is obvious — get a mine detector. Unfortunately, yours is defective. While it will tell you how many mines surround you, it won't tell you where they are. You've got to work that out for yourself. The only help you've got is the fact that as you move over a square it is filled in. This means you can see the 'safe' areas.

Incidentally, if your detector (top left corner) reads safe, that means there are no mines either up, down, left, or right. To move, enter **U**(p) **D**(own) **L**(eft) **R**(ight). Head for the H and once you've made it (or been blown up) you'll get a chance to review your moves with the mines on the screen (no, you can't change a move!). This can be very revealing. There are six levels, each higher level adds 25 more mines. Good luck!

#### Inside the Game

Due to the fact that the array which holds the position on screen of all the mines takes up so much space, the program has to be both memory saving and as unrepetitive as possible. This is the reason for all those GOSUBS, the lack of instructions and a whole lot more! This also means that

changes, and none for REMS. However, for those who love to fiddle and for those who want to understand how the program is written, I have written a line-by-line explanation and a variable list. I hope this will make the program easier to understand. Incidentally, I'll point out the areas where those of you who are independently minded may like to make some changes to give that personal touch!

#### RUNdown

INCIN	UUVVII
Line	Action
10	Define variables for start of
	screen and start of colour map.
	The peek used means that the
	program automatically adjusts
	for any memory size.
30-40	Input starting level. If you want

30-40 Input starting level. If you want to have more than six levels, change here.

GOSUB to work out mine positions, then to draw borders, etc.

Set player starting position on screen and colour maps. Start of move loop. Print how many moves used so far.

GOSUB for mine detector reading.

Set M to O, to ensure that a move cannot 'autorepeat'. Also clears keyboard buffer, to ensure that an accidental key push cannot trigger move.

215-252 Loop which repeats until key is pressed, and which then gives a value for M.

210

257

Tells if you're trying to move onto a border, and prevents you doing so.

Set LP to where the player is now. Increase PP by M, giving the new player position. Also give new location on colour map, and increase count by one.

Test if you'e made it home, by peeking for H.

POKEs up player's character on screen and colours maps.

265 Check if lines after 220 have been called as a GOSUB from line 10000. If so, return there.

270 Increase string B\$ by the latest

Increase string B\$ by the latest movement instruction entered (AS/). This is for use in line 10000.

Check if the player has stepped on a mine.

320 Complete movement loop if







8500

8700

9000

10000

10010

ends the character on the screen will be in the same place as it was at the start of this routine.

Variable List

SM Start point of screen map. Adjustable for different sized memories automatically.

CMStart point of colour screen. Adjustable for different memories automatically.

SO First of the 3 voices. SO+I-SO+5 gives 2 other voices, volume and screen/border colour. This is used throughout the program. Array A used to store positions

on screen of mines.

Count of number of moves made each game.

RNRandom number used to posi-

tion the **H**(ome) position (from I-22).

Flag used in GOSUB routine in X9 lines 10000-10020.

PP Present position of player on screen (including SM number).

PC Present position of player on colour screen map (including CM number).

M Number used to work out new PP and PC.

Level of play at present time. MI-M4 Variables used as flags in GOSUB at 3000.

NM Number of mines detected by the mine detector routine

(3000) each time.

CH Character to be used in GOSUB at 10000.

T,T2,T3 Variables used in sound and other loops.

A\$ String used in get statement. B\$ String used in line 270 to keep record of players movements.

> String used in wait for key press in GOSUB at line 8700.

Key in and tread carefully . . .

X\$

3010 Start of loop to read array A where the locations on screen are stored. The 25 here would also have to be changed if a greater increase of mines per level is wanted.

3020-3045 For each line-check if mine already read in that direction. If not, set variable to show that one has the increased number of mines by one.

3055 If no mines are detected, prints 'safe' message.

3062-3064 If mine detected, print number found and play suitable sound effect.

Sound effect. 4000

6000

5000 GOTO routine for when you've made it home. Set character for use in GOSUB 9900, print up mines, print borders, play sound, re-play game, wait till key is hit, and print results title page.

5010 Jumps to questions about what to do next.

> GOTO routine for stepping on a line. Line 6000 sets a character to inverse mine for



wait for key press, and display

Display character number 170

at position PP. Flick between

170 and a blank space, with

sound effects as well. Leave

GOSUB routine to re-play

game. Display character CH at

present player position then

Set loop to length of B\$. Make

A\$ = each character of B\$ in

turn. Then GOSUB to 220,

which will take A\$ to be a key

input from line 215. It will then

move the player's character on

screen as in the original game

at that time. Because the flag

X9 is set, it will return at line

265. The program will then

wait for a key press, print the

reset player position to start.

results title screen.

end if required.

7000-7020 Display results title screen.

6520-6560 Prepare to re-play game, or

End program routine.

170 on screen at end.

Wait for key press.

```
10 SM=7680:CM=38400:IFPEEK(644)>32THENSM=4096:CM=37888
 20 DIMA(150):S0=36874
 30 GOSUB7000: PRINT "XXXSTARTING LEVEL(1-6)"
 40 INPUTL: IFL<10RL>6THEN30
 50 PRINT"3":POKESO+4,15:C=0:RN=INT(RND(0)*20+23):B$="":X9=0
 100 POKESO+5,26
 110 GOSUB1000:GOSUB1200
 150 PP=SM+495:PC=CM+495
 160 POKEPP, 218: POKEPC, 0
 205 GOSUB3000
 210 M=0:POKE198,0
 215 GETA$
 220 IFA$="U"THENM=-22
 230 IFA$="D"THENM=22
 240 IFA$="L"THENM=-1
 250 IFA$="R"THENM=1
 252 IFM≈0THEN215
 255 IFPEEK(PP+M)=230THENGOSUB4000:GOTO210
 257 LP=PP:PP=PP+M:PC=PC+M:C=C+1
 260 IFPEEK(PP)=8THENGOT05000
 263 POKEPP, 218: POKEPC, 0: POKELP, 160
 265 IFX9=1THENRETURN
 270 B$=B$+A$
 280 FORT=1TOL*25: IFPP=SM+A(T)THENGOTO6000
 290 NEXTT
 320 GOTO200
 999 END
 1000 FORT=1TOL*25
 1010 X=INT(RND(0)*462+22): IFX=4950RX=4730RX=4510RX=RN+22THEN1010
 1020 A(T)=X:NEXTT
 1030 RETURN
 1200 FORT=0T021:POKESM+T+22,230:POKECM+T+22,5:POKESM+484+T,230:POKECM+T+484,5:NE
 1210 FORT=22T0506STEP22:POKESM+T,230:POKECM+T,5:POKESM+T-1,230:POKECM+T-1,5:NEXT
 1220 POKESM+RN, 8: POKECM+RN, 4: POKESM+495, 160: POKECM+495, 0: POKESM+473, 160: POKECM+4
 73,0
 1230 POKESM+451,160:POKECM+451,0:RETURN
 1500 FORT=180T0200:POKESO,T:POKESO+3,T:FORTT=1T05:NEXTTT,T
 1510 FORT=200T0120STEP-1:POKESO,T:POKESO+3,T:POKESO+1,T-10:FORTT=1T010:NEXTTT,T
 1515 POKESO+3,0:POKESO+1,0:POKESO,0
 1520 RETURN
 1700 FORT=219T0239:FORT2=1T05:POKES0+2,16+T-T2:NEXTT2,T
 1710 FORT=239T0219STEP-1:FORT2=1T05:POKES0+2,16+T-T2:NEXTT2,T
 1720 POKESO+2,0:RETURN
 1800 FORT=1TOL*25:POKESM+A(T),42:POKECM+A(T),2:NEXTT:RETURN
 1900 FORT=1T04:FORT2=1T020:POKES0,251-T2:NEXTT2,T:POKES0,0:RETURN
 3000 M1=1:M2=1:M3=1:NM=0:M4=1
 3005 PRINT" WAIT
 3010 FORT=1TOL*25
 3020 IFM1=1THENIFSM+A(T)=PP-22THENM1=0:NM=NM+1
 3030 IFM2=1THENIFSM+A(T)≈PP-1THENM2=0:NM=NM+1
 3040 IFM3=1THENIFSM+A(T)=PP+1THENM3=0:NM=NM+1
 3045 IFM4=1THENIFSM+A(T)=PP+22THENM4=0:NM=NM+1
 3050 NEXTT
 3055 IFNM=0THENPRINT"#SAFE":GOTO3070
 3060 PRINT"MNO.MINES"; NM
 3062 FORT=239T0210STEP-1:FORT2=1T05:POKES0+2,16+T-T2
 3064 NEXTT2, T: POKES0+2, 0
 3070 RETURN
 4000 POKESO+2,150:FORT=1T0100:NEXT:POKESO+2,100:FORT=1T0100:NEXT:POKESO+2,0:RETU
 5000 CH=136:PRINT": GOSUB1800:GOSUB1200:GOSUB1900:GOSUB10000:GOSUB8700:GOSUB700
 5010 GOT06520
 6000 CH=170
 6010 GOSUB1500:PRINT"":GOSUB1800:GOSUB1200:GOSUB10000:GOSUB9000:GOSUB8700:GOSUB
 6520 PRINT"XXX HIT A KEY TO RE-PLAY"
 6525 PRINT"X OR F3 TO RAISE LEVEL"
 6530 PRINT" OR F1 TO RESIGN NOW"
 6535 GOSUB1700
 6540 GETA$: IFA$="面"THEN8500
 6542 IFA$<>"B"THEN6550
 6544 IFL<6THENL=L+1:GOTO50
 6546 PRINT"XHIGHEST LEVEL REACHED": GOTO6540
 6550 IFA$=""THEN6540
 6560 GOTO50
 7000 PRINT" TOOD TOO BEEN TINE-FIELD"
 7020 PRINT"國際國際國際MOVES"; C: RETURN
 8500 POKESO+5,27:PRINT"::END
 8700 PRINT" X SHIT ANY KEYE": POKE198,0
 8720 GETX$: IFX$=""THEN8720
 8730 RETURN
 9000 FORT=1T05:POKEPP,32:POKES0+2,0:POKES0,120:FORTT=1T0150:NEXTTT
 9010 POKESO, 0: POKESO+2, 200: POKEPP, 170: FORTT=1T0150: NEXTTT, T
 9020 POKESO, 0: POKESO+2, 0: RETURN
 10000 POKEPP, CH: POKEPC, 2: PP=SM+495: PC=CM+495: X9=1: C=0
 10010 FORT=1TOLEN(B$): A$=MID$(B$,T,1): GOSUB8700: GOSUB220:
 10020 PRINT ** PRINT ** RETURN
```

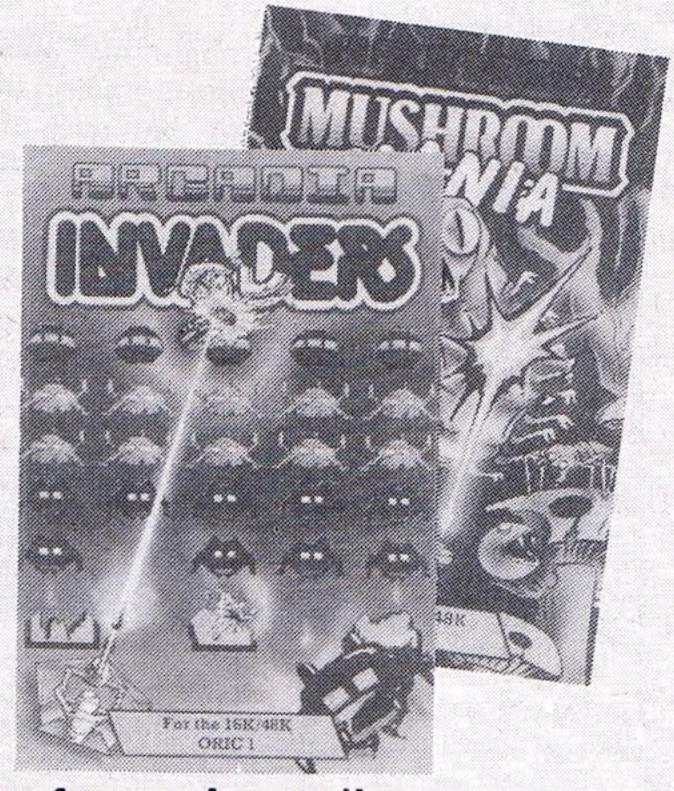
# 

In next month's fun issue of Games Computing...

GO Bananas in Krazy Kong

Get your guns at the ready for an Alien Showdown

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A galaxy of games from Arcadia Software...

Virgin's great new hype board game up for grabs...

PLUS news and reviews of the very latest in computer and video game software



Friday 13th January

CAMES COMPUTING At the beginning of October a French exhibition was held which was supposed to herald the start of the home computer and video games front in Europe. Showing off their products were all the major video games firms like Atari, Mattel (with the Intellivision), CBS (with the Colecovision), Vectrex, and on the computer software side were the likes of Quicksilva, Dragon Data, Abbex Electronics, and Cable Software. Here's a report of the events.

## Pele Foots the Press

Half way through the Cannes located show was one of the week's high spots. Former Brazilian world class soccer star Pele made a special guest appearance on the Atari stand in the exhibition hall and immediately the place was swamped with small boys tearing all over the place clad in bright football kits.

There was no stopping them! The kids were clambering on stands playing their favourite computer and video games, (joystick clutched in both hands and football under an arm) and when they weren't hogging all the games (and not just on the Atari stand either) the kids were generally causing havoc. Computer games fever

At Mijid the Imager on show was only a prototype, but if that is anything to go by the final shop-shelf product will be mindblowing! The effect on screen is remarkable and made the Vectrex games all the more addictive.

At present MB Electronics is planning to bring out three games for use with the Imager. These are Pole Position, Mine Storm and Narrow Escape. The game I played was Narrow Escape (I think - all the relevant literature was in French!). And it had me hooked and it took a very irate colleague to drag me away from the Vectrex stand.

Narrow Escape's object of play is to roam the galaxies and destroy an interstellar fortress belonging to an evil enemy people. You must wipe out the gigantic arms arsenal in order to free the galaxy's system. You operate a space craft and have to travel down the fortresses's corridors, being constantly on the alert for enemy laser gunfire, while firing your own ship's weapon's at the arsenal. And, for a change, it really is as exciting as it sounds. The Vectrex's linear screen graphics lend themselves ideally to 3D and the effect is very similar to graphics used in computer aided design.

Unfortunately, at present there is no set date for the UK release of the 3D Imager, the compatible cartridges nor has the sell-

## In Brief . . .

British software maker Abbex Electronics was in evidence at the show although they may be better known as 'Abbex the Games People'. I must admit that I had never heard of them but what I saw was a pleasant surprise. The Abbex lads specialise in writing games software for the Sinclair ZX Spectrum and have done so for over a year.

But recently the boys from Bedford, including one Gareth Levingston (sales director) have branched out into producing other popular micro computer software. Now their talents are used to write games for the Commodore 64, VIC 20, Oric 1 and Laser 200.

Abbex's games range from space games, to pacman versions, adventure, war games, strategy and arcade games. The firm's coup at Mijid was that they pulled off a deal to supply Dragon Data with a trial Abbex game with a view to marketing it for use with the Dragon computers (the 32K and 64K machines).

Atari's VCS cartridge E.T. sold in such low numbers in America that drastic action was taken. In the dead of night 14 trucks were loaded with the games, driven off in to the desert - and dumped. It is general knowledge that the video

## By Sue Denham MIXINGATMETID

certainly seems to have spread worldwide, even the smallest of kids were hooked on one game or another - and beating the adults hands down!

Pele was there primarily as a publicity stunt to attract not only the press photographers but also public and trade on to the Atari stand. Video games afficionados will already know that Pele has for some time given his name to promote Atari's soccer cartridge.

Seeing stars of any field is always exciting but I was hoping to see the great master of football to at least hold a football, if not kick it around a few times. I really did have to spot the ball! Instead he was wearing a plain old dark suit - very formal indeed and not a football in sight But still, the event brightened up an otherwise dull week.

## Vectrex

Without exception the biggest stands went to the biggest exhibitors, but unfortunately there was precious little on them that was brand new to the public or trade.

Makers of the popular Vectrex games system came out tops in this respect with a brilliant invention in the form of the Vectrex 3D Imager. This is a specially designed pair of goggles which the player wears and must plug directly into the Vectrex console. This clever device truly transports the player into the realms of a three dimensional world.

The 3D Imager's special features (apart from the fact that it is 3D) is that you don't need a special adaptor to plug the game into the main game console in order to use the device, the Imager can be worn by anyone because the head strap is adjustable (even if you wear glasses you can use the Imager) and the goggles automatically adjust to the colours of the game being played.

ing price yet been fixed. Rumour at the show was that they would be available at some time during the first quarter of next year - once the final production version of the Imager is working to everybody's satisfaction.

## **Imagic**

Having had a good run with several cartridges when this firm first set up a couple of years ago the magic is now fizzling out for the VCS side of Imagic.

This VCS games cartridge manufacturer came on to the scene with a splash of publicity and good packaging but the downturn in sales experienced by many VCS compatible manufacturers has had a terminal detrimental effect. Imagic has decided to stop producing their own games and will concentrate on games design and development instead.

The demise of Imagic stems from problems which took root at the beginning of the year when the firm abandoned its plans to go public, instead securing more venture capital in order to bring out more best selling games. But the best sellers didn't come and not one matched the success of Demon Attack (brought out in 1982).

Things were obviously not going very well and in an effort to save the business Imagic's men at the top opted to go into the computer software market which was slap bang in the middle of a boon. This year similar moves by rival VCS software makers have proved successful (Atari has always done so, Activision went into it in the summer and Parker has just announced new computer games titles). Even so, it didn't work for Imagic. Cash flow problems still carried on.

And as a result one firm roaming the video games jungle has fallen into a very large trap.

games market has lurched into a decline in recent months and Atari's problem was that shops wouldn't stock further new games until old stocks had sold out.

But when Jim Levy, Activision's president was asked for his prediction on business and whether or not the slump would continue he said: 'There are two definite sections in the market, computer software and VCS software, which I feel will carry on selling well despite rumours to the contrary.'

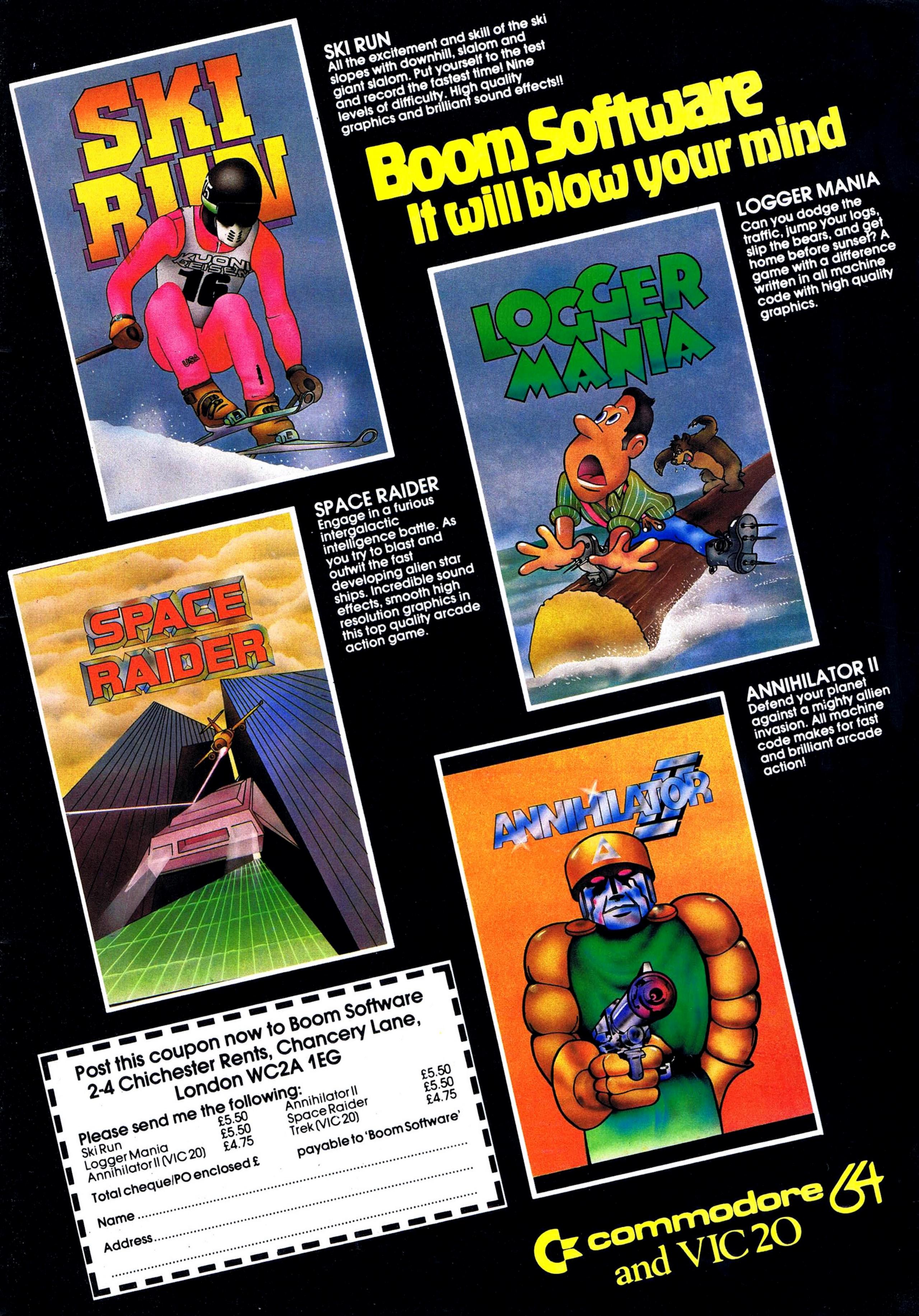
'We have just released games for the Atari 400 and will continue to do so in the future - it was always the plan to do so. We didn't do it because the VCS sales were dropping. Hardware sales are still good, as are software sales."

In fact, Activision's whole operation has expanded so much that it has recently set up its own UK division to concentrate purely on marketing strategies. Until then, CGL one of Britian's largest electronic games distributors, was responsible for Activision's products in the UK.

CBS had a prototype of their forthcoming new home computer the Adam on show but the news is that the machine won't be on sale generally until some time in 1984. Production problems at the development meant that the Adam's launch date was put back indefinitely because CBS 'wanted to come out out with a product which is as near perfection as possible'. Let's hope that when the Adam finally joins the now enormous family of home micros it will be a worthy and lasting member.

## Last Words

Not even somebody with the wildest of imaginations could say that the first Mijid was a runaway success. Nevertheless a few snipets of interesting information were uncovered as reported here.





# 

Fishing Fred's way needs utmost cunning and speed if you want to haul in a huge catch during an illegal fishing trip.

Armed with three rods with which to catch the river-living victims Fred runs up and down the river bank in an attempt to reel in the objects pulling on the end of each line, (they're not always fish either). The key to reeling in a rod is to stand one space to the left of the rod rest.

Sounds simple? . . . You might think so but while you frantically try to reel in your rods Percy The Pike swims around the screen. Should he hit any of the objects on the lines the object will disappear and you will lose a point. From time to time it will rain (cyan squiggles coming from the cloud) and the sun will go in. When this happens you must position Fred over the 'U' on the river bank, and press 'U' on the keyboard to put up your fishing umbrella. Until this task is completed you cannot reel in any of the rods. The game lasts two minutes and you must score as many points as possible in this time.

#### Keys to use

moves Fred left moves Fred right reels in line

puts up fishing umbrella

#### **Objects on Lines**

Old boots 1 point ½ point Weed 10 points Big fish \* Small fish 6 points 3 points Eels

## **VARIABLE LIST**

High score value. HS% S% Present score value. T%

Time.

Random number between one UMB% and ten (defines whether it

rains or not).

Whether it is raining or not. UMB\$ Whether the umbrella is up or U\$ down.

Vertical position of object on

G% left hand line.

**H**%

Vertical position of object on middle line.



GAMES COMPUTING JANUARY 1984



right hand line. PD% Horizontal position of pike. PL% Vertical position of pike. V% FOR/NEXT loop variable. M% Determines whether Fred has his arms up or down. X% Horizontal position of man. P% Determines what is on the end of line 1.  $\mathbf{Q}\%$ Determines what is on the end of line 2. Determines what is on the end R% of line 3. Searches for movement key to G\$ be pressed ie 'Z' or 'X' etc. K% Determines position of pike's tail.

Vertical position of object on

ject positions. 440 Sets background colour to blue and clears screen. 450-580 Draws initial graphical display. 590-910 MAIN PROGRAM LOOP. 920-1080 DEFPROCLEFT procedure to move man to the left. 1090-1250 DEFPROCRIGHT procedure to move man to the right. 1260-1360 DEFPROCREDRAW procedure to redraw lines deleted by man.

Initial variables for pike and ob-

410-430

1370-1640 DEFPROCSETUP procedure to reprint characters in their new positions.

1650-1710 DEFPROCREELIN1 procedure to reel in left hand line.

1720-1780 DEFPROCREELIN2 procedure to reel in middle line.

1790-1850 DEFPROCREELIN3 procedure to reel in right hand line.

1860-2030 DEFPROCSCORE procedure to calculate new score.

2040-2120 DEFPROCRESTART procedure to restart the game at end.

2130-2530 DEFPROCPIKEMOVE procedure to move pike across screen deleting characters which it hits.

2540-2580 DEFPROCDRAWUMB cedure to draw umbrella.

2590-2620 DEFPROCUMBUPORRD procedure if umbrella is up or down.

2630-2660 DEFPROCRAIN procedure to draw rain in sky.

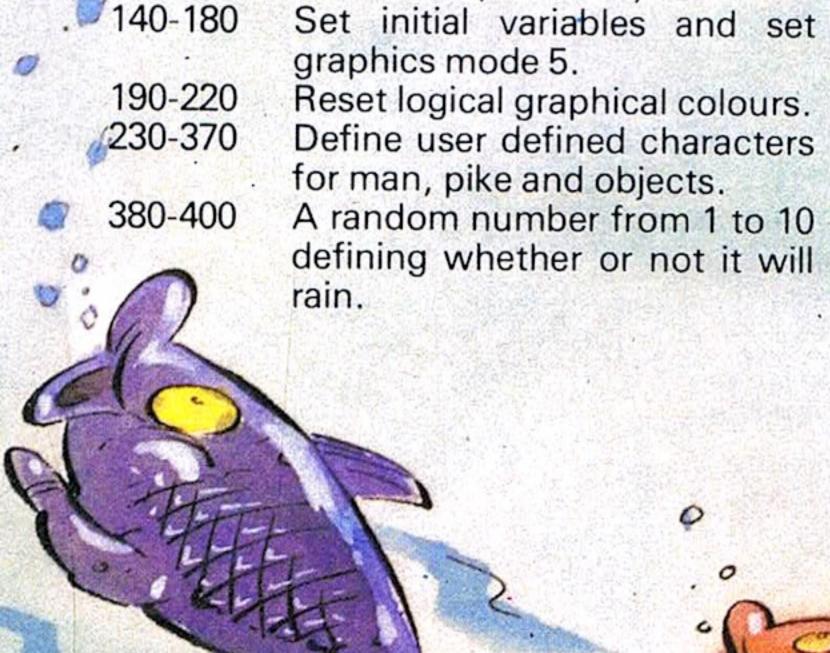
2670-2700 DEFPROCREDRAWLINE procedure to redraw fising lines when they are deleted.

#### Conversion Clues

BBC Basic is fairly standard, however, it does permit the use of procedures and functions. These are defined using DEF-PROC (procedure name), ended with ENDPROC and called using PROC (procedure name). Other BASICs may not have this facility, however, it should be relatively easy to replace these procedures using subroutines.

In the graphics mode 5 the BBC Micro's screen size is 20 characters by 32 rows and it may therefore be necessary on some computers to change a number of the PRINT statements.

The BBC Micro uses the SOUND and ENVELOPE commands to create sound effects and these will have to be omitted or replaced with the appropriate commands. One other command peculiar to the BBC Micro' is the PRINT TAB command which serves the same purpose as the PRINT AT or PRINT @ commands on other computers.



Lines

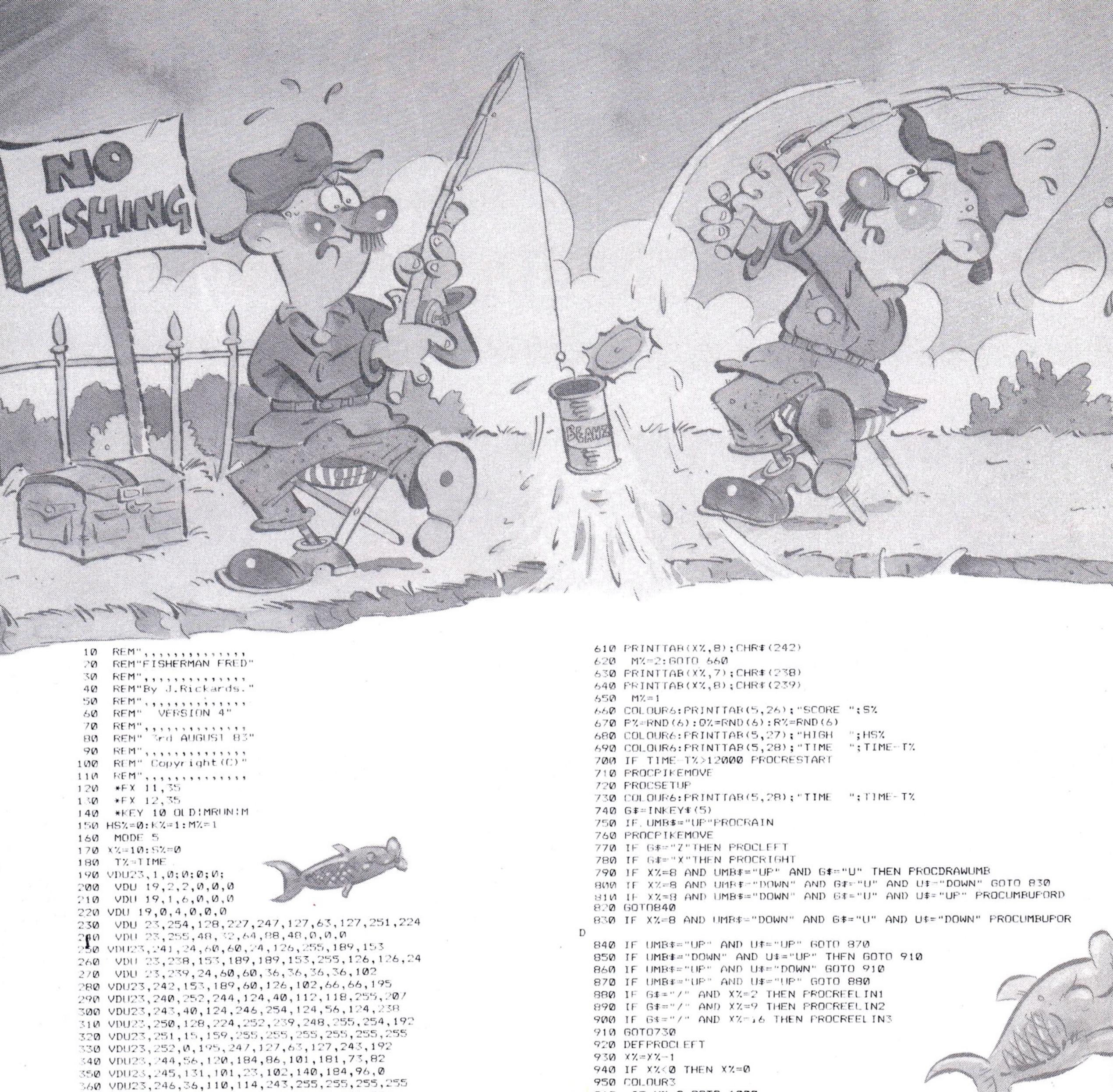
120-130

RUNdown

Action

Set auto repeat delay.

GAMES COMPUTING JANUARY 1984



370 VDU23,247,255,255,126,60,24,60,126,231 380 UMB%=RND(10) 390 IF UMB%<4 THEN UMB\$="UP" ELSE UMB\$="DOWN" 400 REM 410 U\$="DOWN" 420 G%=17:H%=22:1%=12:PD%=0:PL%=RND(23) 430 IF FLX<11 THEN FLX=12

440 GCOL0,132:CLG 450 MOVE0,735:GCOL0,2:DRAW1280,735

460 FOR V%=1T025: MOVE0.735-V%: GCOL0.2: DRAW1280,735-V%: NEXT

470 MOVE0,202:GCOL0,0:DRAW1280,202

480 FOR V%=1T015:6COL0,3:MOVE0,202+V%:DRAW 1280,202+V%:NEXT

490 IF UMB\$="UP"GOTO 510 500 GCOL0,3:MOVE0,940:DRAW20,940:DRAW40,950:DRAW50,960:DRAW60,98

0: DRAW60, 1000: DRAW50, 1020: MOVE10, 920: DRAW10,860: MOVE80, 990: DRAW140 ,990: MOVE60,940: DRAW100,900 510 GCOL0,3:MOVE400,1020:DRAW420,980:DRAW440,960:DRAW460,950:DRA

W480,925: DRAWS00,975: DRAW520,960: DRAW560,920: DRAW580,910: DRAW600,9 10: DRAW660,940: DRAW670,960: DRAW680,980: DRAW700,980: DRAW720,990: DRA W740,1020

520 GCOLØ,7:MOVE200,708:DRAW200,760:DRAW220,780:MOVE180,780:DRAW 200,760 530 GCOL0,7:MOVE1080,708:DRAW1080,760:DRAW1100,780:MOVE1060,780:

DRAW1080,760

540 GCOL0,7:MOVE640,708:DRAW640,760:DRAW660,780:MOVE620,780:DRAW 640,760

550 GCOL0, 2: MOVE120, 740: DRAW340, 800: MOVE560, 740: DRAW800, 800: MOVE 1000,740:DRAW1240,800

560 GCOL0,1:DRAW1240,640:MOVE800,800:DRAW800,300:MOVE340,800:DRA W340,480 570 MOVE400,740:GCOL0,3:DRAW440,780:MOVE440,740:DRAW400,780:GCOL

0,1:DRAW420,773:DRAW440,780 580 COLOURS: FRINTTAB(8,9); "U"

590 IF M%=2 GOTO 630 600 PRINTTAB(X%,7); CHR#(241)

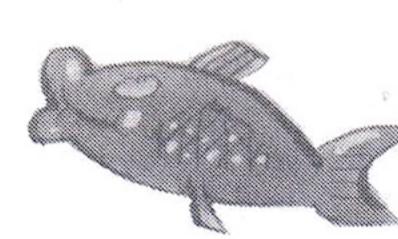
960 IF M%=2 GOTO 1000 970 PRINTTAB(X%,7); CHR\*(241) 980 PRINTTAB(X%,8); CHR\$(242) 990 M%=2:GOTO 1030 1000 FRINTTAB(X%,7); CHR\$(238) 1010 PRINTTAB(X%,8); CHR\$(239) 1020 M%=1 1030 PRINTTAB(XX+1,7); CHR\*(32) 1040 PRINTTAB(XX+1,8); CHR\$(32) 1050 SOUND1,-15,101,1 1060 PROCREDRAW 1070 PROCREDRAWLINE 1080 ENDEROC 1090 DEFFROCRIGHT 1100 X%=X%+1 1110 1F X% 19 THEN X%=19 1120 COLOUR3 1130 IF M%=2 GOTO 1170 1140 PRINTTAB(X%,7); CHR\$(241) 1150 FRINTTAB(X%,8); CHR\$(242) 1160 M%=2:60T01200 1170 PRINTTAB(XX, 7); CHR\$ (238) 1180 FRINTTAB(X%,8); CHR\$(239)

1200 FRINTTAB(X%-1,7); CHR# (32)

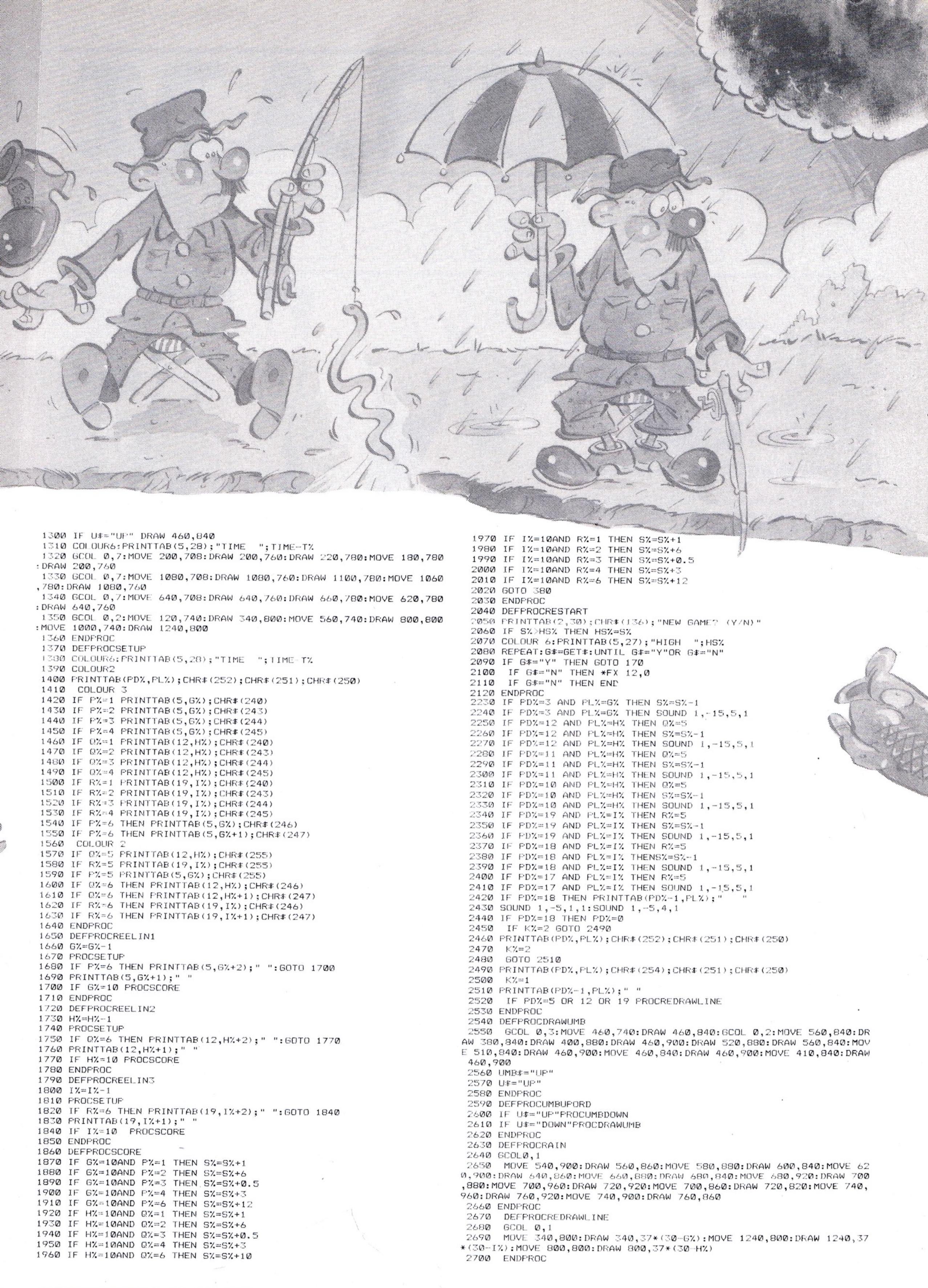
1210 PRINTIAB(X%-1,8); CHR4(32)

1290 IF U#="UP" MOVE 460,740

1190 M%=1



1220 SOUND1, 15,88,1 1230 PROCREDRAW 1240 PROCREDRAWLINE 1250 ENDPROC 1260 DEFFROCREDRAW 1270 MOVE 400,740: GCOL0,3: DRAW440,780: MOVE 440,740: DRAW400,780: GCOL 0,1:DRAW420,773:DRAW440,780 1280 GCOL0,3



# IBROGBRAIM

## STBIMISSIONS



Does brilliance reside in your RAM? Do your friends gasp at your own programs with envy in their eyes? Would you like to see your name in *Games Computing!* 

If you have written a program to take the software world by storm and want to show your fellow readers just what you can do on a keyboard, cut out or photocopy the form below and send it to the Editor, Games Computing, (clearly marked PROGRAM SUB-MISSIONS) at 145 Charing Cross Road, London WC2H 0EE (until 16 December 1983) and after that to 1 Golden Square, London W1.

Please send with your tape recording of the program a thorough explanation of the game, a line by line listing of how the program works along with a list of relevant variables etc. Also include any clues which you can think of to help owners of other computers other than the one which the program was written for, convert it for use on their computer.

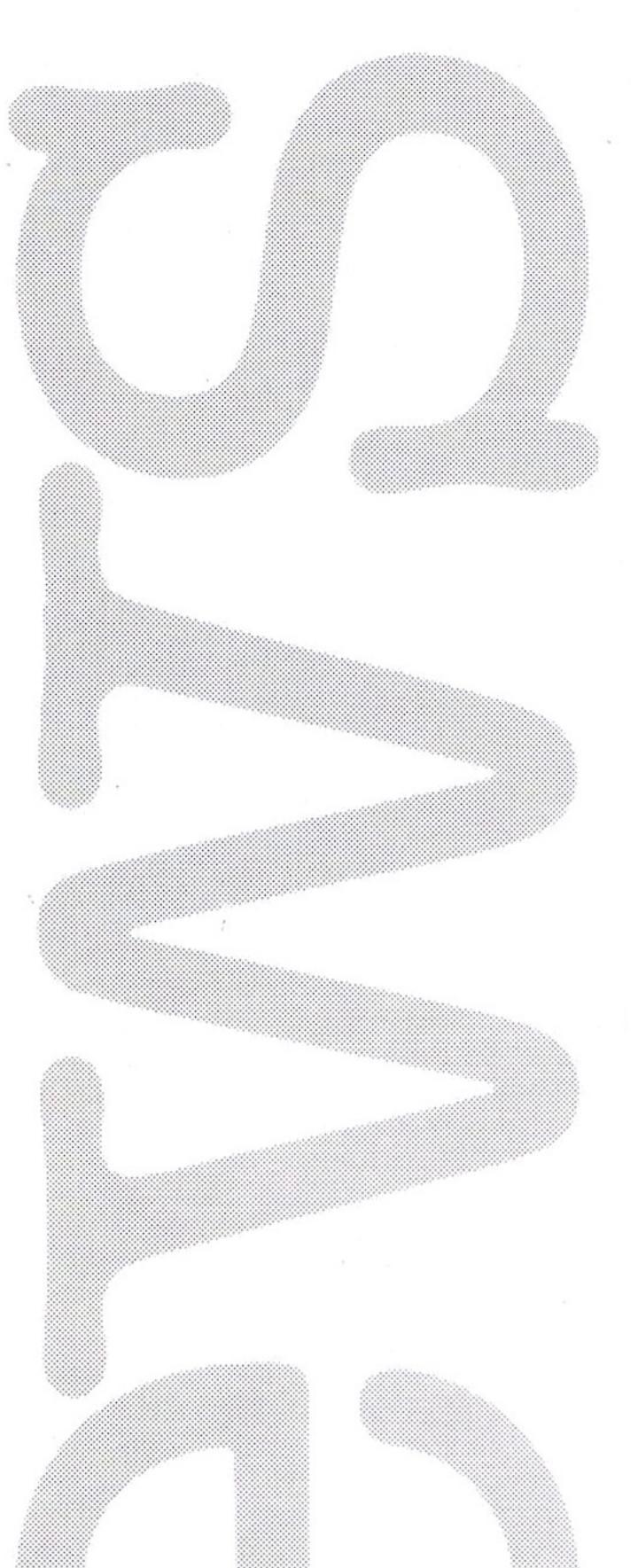
We will look at games programs on tape for all the popular home micros and disc versions for the Commodore machines, Atari and BBC (40 track and Hitachi format). Whenever possible use CHR\$ rather than command codes and please avoid making programs autorun. If you can let us have a printout of the program it helps and the same goes for screen dumps.

P.S. They'll be paid for too!



## \* PLEASE COMPLETE IN BLOCK CAPITALS Age Your Name Program Name Computer/memory size it runs on Amount of memory program occupies Other computers/memory size which your program runs on No Yes Does your game need joysticks? Any known bugs? If so, what are they? Yes No Have you sent your game to another magazine Is it original/or a variation on a theme? Your Address Telephone Number

Times to contact you



## Alligata's Big Byte

Alligata Software is evidently aiming to bite a chunk out of the software market with the firm's recent games releases.

There are various games out for the BBC, Commodore 64 and Dragon 32. For the BBC micro come such titles as Bugblaster, which is the Alligata version of a great favourite arcade game called Centipede. Alligata boasts the fast implementation of the game will make it a winner. Other titles are a car racing game called (surprise, surprise) Monaco, a new version of an old game in the form of Lunar Rescue, Fruit machine, Cosmic Asteroids (which sounds like a version of the original asteroids game) and ABM which sounds suspiciously like another old favourite, Missile Command. Prices are from £5.95 to £7.95.

Commodore 64 games from Alligata's range are an adventure game called Haunted House featuring the standard nasties found in such a place. Squash a Frog — could this be the game by the name of Frogger, or another version of it? Bat Attack features killer bats and clusters of asteroids (a strange combination that one), while Aztec Tomb is a graphics adventure with the scenario set in the depths of the Amazon where you must find the lost Aztec tomb. Other titles are Balloon Rescue, Damsel in Distress and Brands. Again prices vary from £5.95 to £7.95.

And the offerings for Dragon owners are a version of the classic arcade game Space Invaders. Alligata says the game features 'excellent sound and graphics'. The other game just released for the Dragon is called Jaws.

At least the theme is different in this game, being set under water in the middle of a shark patch. Your job is to search the seas of survivors of an ocean disaster before the sharks gobble them up. Could put you off swimming for life. Each game for the Dragon costs £7.95.

Alligata Software is located at 178 West Street, Sheffield S1 4EGT.

## Stop Press . . .

Following hot on the heels of Game Lords Quicksilva's music program for the BBC Micro comes an even better piece of software with a musical vent.

Quicksilva's Mark Eyles was over the moon when he heard that the program had been given the thumbs up. 'It's amazing,' he said, 'it sounds just like a real synthesiser.' The firm is now concentrating on producing as much quality Commodore 64 software as possible and the music program will be on streets very quickly, so it could make an excellent last minute Christmas present for somebody you know — or maybe yourself. Watch out for it in your local software shops.



## Annihilator Coming Soon

US Chart topper Annihilator is soon to be on sale in the UK for VIC 20 and CMB 64 computer owners.

Mogul 'The new force in computer software' are planning to rush-release this great game, presumably just in time to having just acquired the UK, European and Scandinavian marketing rights to the game. At present the game is sitting prettily near the top of the *Computer Gazette Top 10* in America and looks like zipping to be a top seller in England. Mogul plans to put a price tag of £5.99 on Annihilator and the firm intimates that it will be available on other computers in the course of time.

Annihilator is an arcade style game revolving round invading aliens but it's NOT Space Invaders. The action apparently is fast and furious and the game is written entirely in machine code in order to achieve this high speed action. Watch out for a review of Annihilator in a future issue of *Games Computing*.

## Commodore 64s to Win

If you can't afford to buy your own Commodore 64 computer but like the look of it Galactic Software have dreamed up a way to give you one.

All you need to make all your Christmasses come at once is to buy one of the firm's games before December 25. Galactic Software's brain bogglers have made their computer churn up a list of 120 numbers which will be selected at random by the machine. When you buy one of Galactic's games all you need to do is send in a section of the inlay card with your guessed number written on it. And the 20 people who either guess correctly to match up with the computer's list, or are closest, will each win a Commodore 64 computer. There are also 100 runners up who will receive a great games control joystick. That's surely worth the cost of one of Galactic's games?

And while we're on the subject of Galactic the firm has news of a new software pack called Games Designer. It sounds similar to the pack brought out by Quicksilva in which you can put user defined characters into your own programs at the touch of a fingertip without any extra effort from you. Things like



monsters, asteroids, moonscapes, spaceships, aliens, and kangaroos can all be picked for your own use. It's an excellent way to learn about programming too, apart from just being fun to use. Games Designer is available for the VIC 20

for £9.50 and Commodore 64 for £11.50. One not to be missed.

Galactic Software can be contacted at Unit 7, Larchfield Estate, Dowlish Ford, Ilminster, Somerset TA19 0PF or telephone them on 04605 5161.

## Roll Up, Roll Up

If you want to buy a computer or some new software for your present machine make the most of a 'try and buy' show to be held in London in early January.

Run by Argus Specialist Exhibitions the London Home Computer Show will be open from Friday January 6 to Sunday January 8 1984. If you're under sixteen you get a special bonus in the shape of a cut-price entrance ticket of £1.50 instead of £2.00, so you'll be able to afford that piece of software you have been hankering after for weeks with those saved pennies.

Last year the London Home Computer Show pulled in the crowds so that this year's event has to be held in a larger hall.

Names of firms exhibiting at the show are not yet definite, but if last year is anything to go by many of the household software makers

Not only will you be able to try out software on show by exhibitors you will also have the chance to look at hardware and add-ons and take goodies away from the stands, once you've bought them of course.

At present its early days for the exhibition but firms who have so far booked stands include Buffer Micro, Shard Software, Computersolve, Mikrogen, Compusound, Saxxon Computing and Computer Lock. No doubt many more will follow.

If you fancy trotting down to the show to spend a few quid you'll find the exhibition at the New Hall, Royal Horticultural Society just behind Victoria Street in Westminster.

## New Generation in Genon

3D games are up and coming in software circles these days and New Generation has come up with a goody in this field.

Called Corridors of Genon this 3D game doesn't mean you have to don a silly pair of cardboard goggles with coloured lenses. It's a graphical adventure game. You have to locate and destroy the computer which has been programmed to wipe out the world (universe included) and is located in the very heart of the Corridors of Genon. There are 30 circular corridors in total which lead to the centre and you must pass through various doors on your way. It sounds very confusing. Some of them you can open and some of them you can't — only by trial and error will you find out which door codes can be broken. There's also a nasty guardian of the corridors to contend with whenever he rears his ugly head. He's called Bogul and has the power, unfortunately for you, to discover your whereabouts and 'Bogulise' you. It all sounds very nasty indeed.

To destroy the computer you must crack a special three digit code, but this you must do within a time limit. The longer you take the more times Bogul will produce clones of himself! And even when you wipe out the compter you're still in danger of dying. For you must escape the corridors and avoid the clones of Bogul — if you don't you're dead.

Corridors of Genon runs on the 48K Spectrum and comes with a keyboard overlay card for you to play the game more easily. If you don't fancy using key controls you can also plug a joystick in and use that. The price is £5.95 and is available from software retailers or New Generation themselves.

## Ostriches and Eggs from Rabbit

Somebody at Rabbit Software has been working overtime on the new games currently landing with a thump on shop shelves.

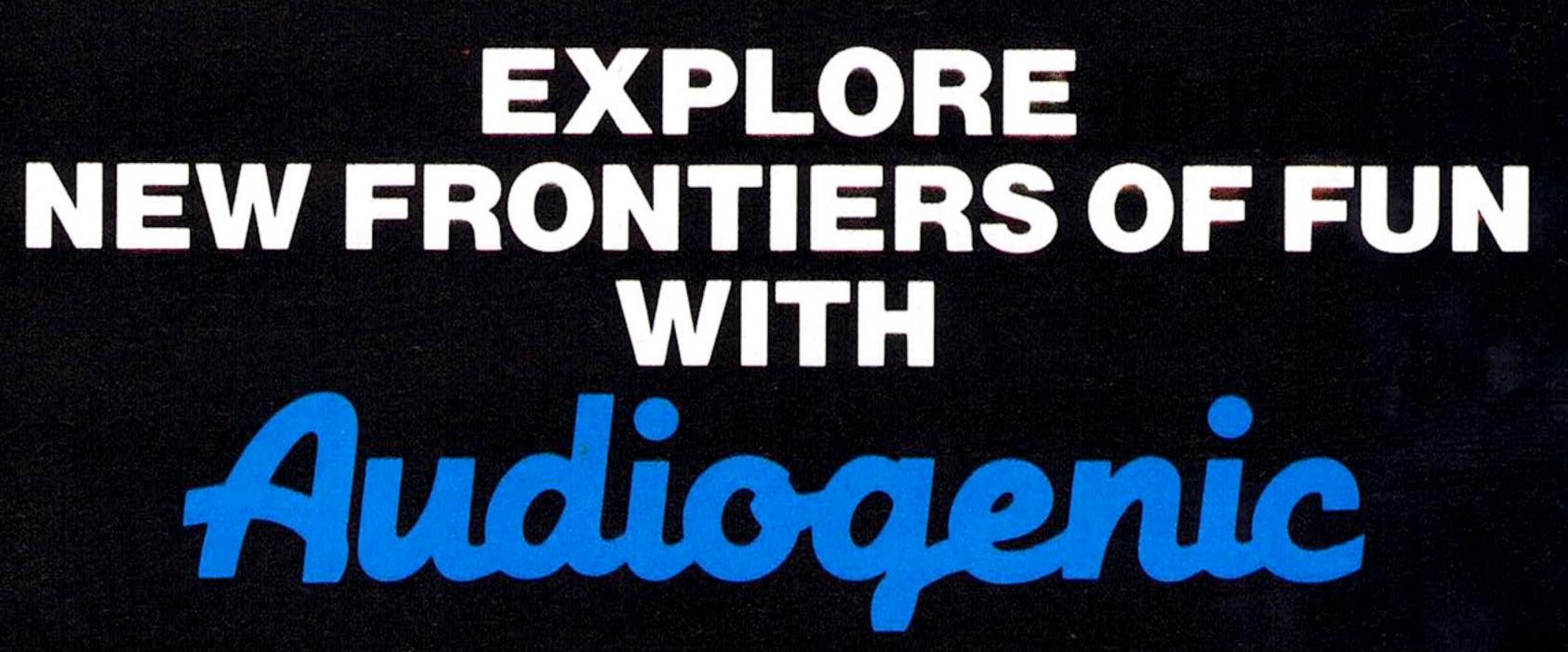
Amongst the new games is one called Lancer Lords. Now this title is a little misleading — it conjours up visions of medieval knights jousting on horseback. But its not. The knights are there all right, but ostriches take the place of the more conventional horse! Sounds crazy but makes for an interesting theme for a game. It all involves lances and eggs which both the player and the enemy seem to have. If you hit any of these your knight is instantly transformed into a rusty heap of tin. Can't wait to review this one.

Paratroopers is another new release from Rabbit which is an arcade style game incorporating invading helicopters and paratroopers which are out to get you and your command post, preferably for good. In Rabbit's words if you lose you get 'a ticket to watch Gateshead' — surely a fate worse than death and definitely something at the back of your mind to keep you on a winning streak.

Potty Painter's title gives nothing of the game away. It's a continuing saga of a game played out in a jungle scenario and is apparently 'more than a bit potty,' with natives brandishing assigi and the terrifying Teddy Twins who try to paint you off the screen!

Rabbit's games are now on sale in branches of Boots, W H Smith and Rumbelows. Prices for the games are £00.00.





From vintage classics like "AMOK" and "ALIEN BLITZ" to the latest classics like "KAKTUS" and "MOTOR MANIA".

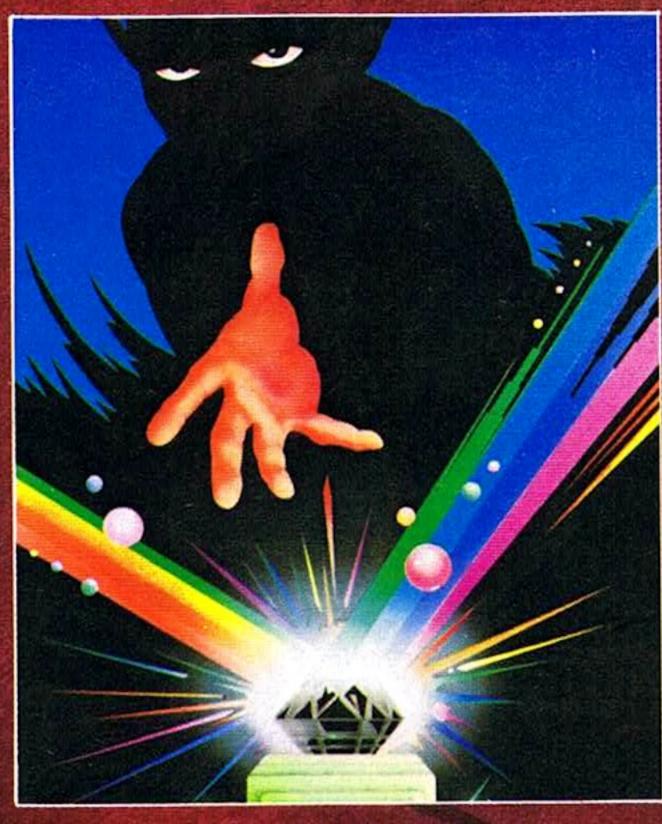
From Machine Code Arcade Action through Graphical Adventure to Mind Bending Board Games - WE'VE GOT THE LOT!

THE BIGGEST RANGE EVER FOR VIC 20 and 64 - NOW ALSO DRAGON AND SPECTRUM WRITE OR PHONE FOR FREE COLOUR CATALOGUE!

AUDIOGENIC, P.O. BOX 88, READING, BEAKS. (0734) 586334



## JUST AROUND THE CORNER, A NEW



BLACK CRYSTAL

The Classic, six program adventure game for the 48K Spectrum and 16K ZX-81 computers. No software collection is complete without it.

"BLACK CRYSTAL is an excellent graphics adventure and a well thought out package" (Sinclair User, April '83).

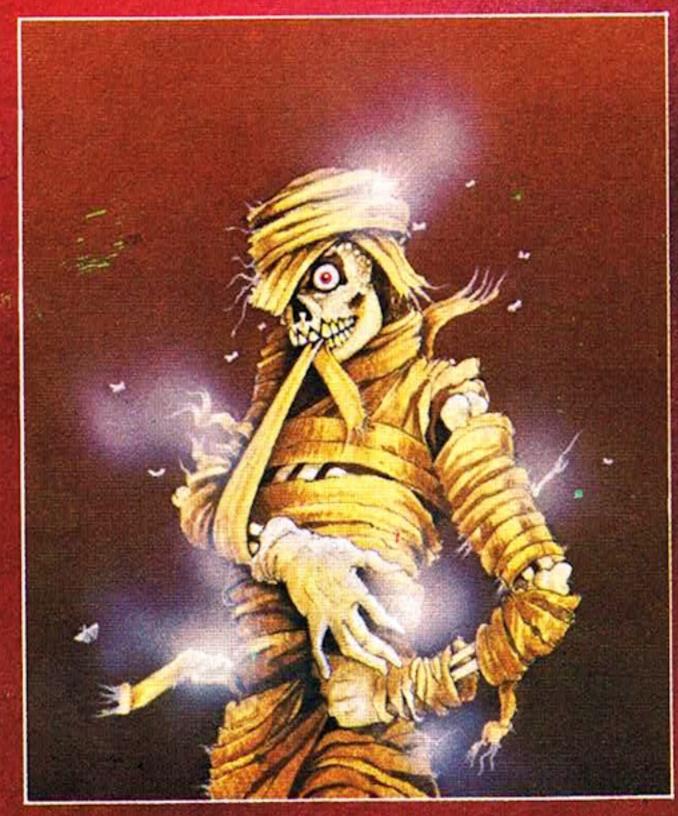
"BLACK CRYSTAL has impressed me by its sheer quantity and generally high quality of presentation. I am afraid I have become an addict" (Home Computing Weekly, April '83).

SPECTRUM 48K 180K of program in six parts . . . only £7.50 ZX-81 16K over 100K of program in seven parts . . . only £7.50 Why pay more for less of an adventure?



THE ADVENTURES OF ST. BERNARD

An exciting, fast moving, machine code, arcade game where you guide your intrepid St. Bernard through the perils of the icy wastelands to rescue his Mistress from the clutches of the abominable snowman. 48K Spectrum £5.95.

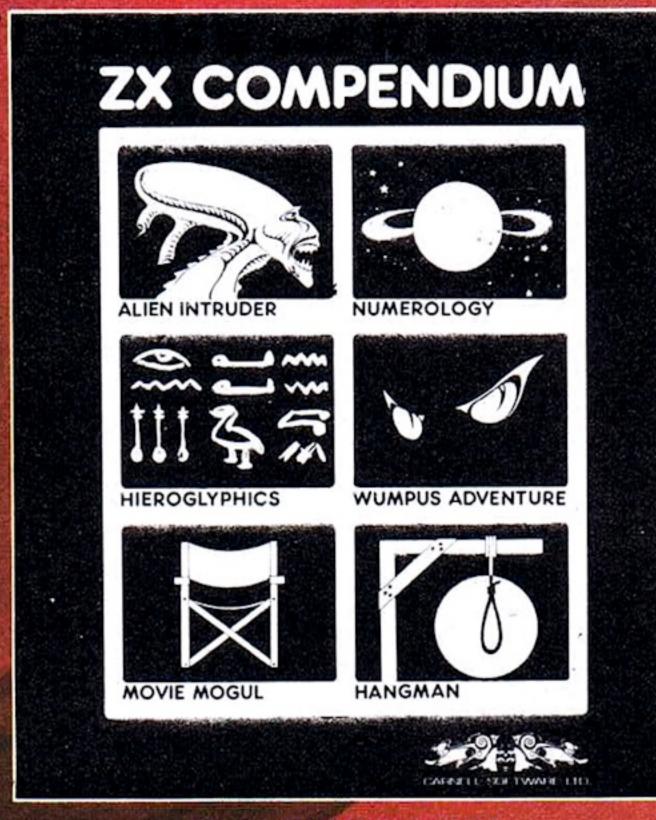


THE CRYPT written by Stephen Renton

Prepare yourself for the many challenges that shall confront you when you dare to enter "THE CRYPT".

You will battle with giant scorpions, Hell spawn, Craners, Pos-Negs and if you are unlucky enough — the Dark Cyclops in this arcade style adventure.

Available now for the 48K Spectrum @ £4.95



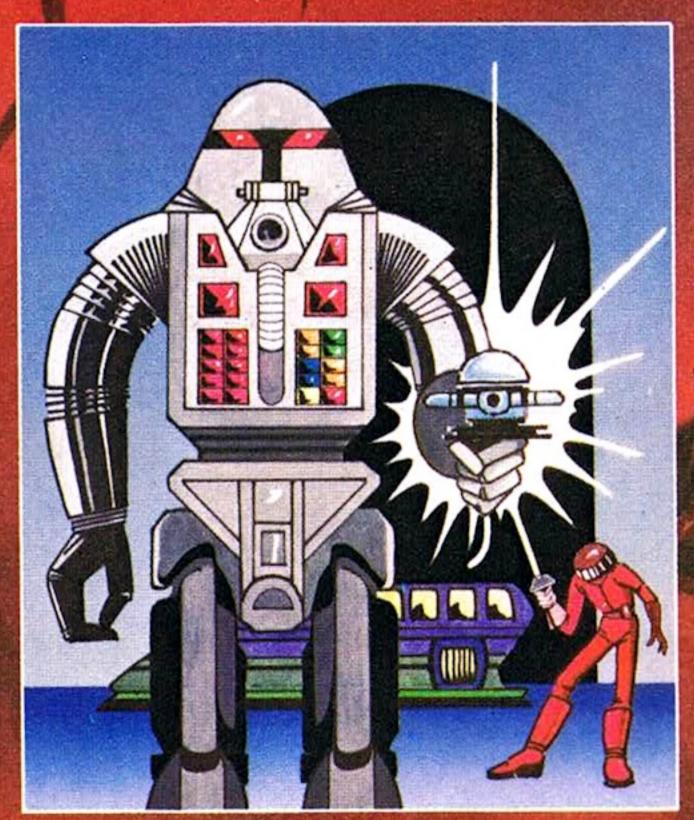
**ZX-81 COMPENDIUM** 

Alien Intruder, Wumpus Adventure, Numerology, Hangman, Hieroglyphics, Movie Mogul.

The ideal software package for all 16K ZX-81 owners. Six major programmes on wo cassettes for only £6.50.

"Alien Intruder/Hieroglyphics — Both programs make good use of graphics and words to make a very entertaining package." (Sinclair User, Aug '82)

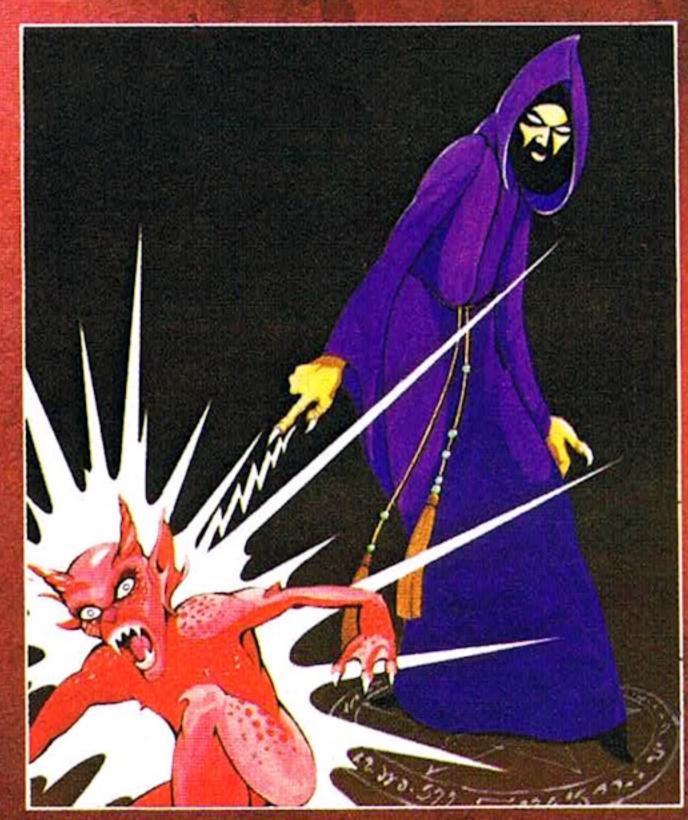
"Alien/Hieroglyphics/Wumpus/Movie — A varied mix from Carnell, all featuring imaginative responses and graphics and all of them good games for all ages (Hieroglyphics is particularly good for children)." (Popular Computing Weekly, Aug '82)



STARFORCE ONE

Take on the robot guardians of the central computer in a superbly stylised three dimensional battle game. 48K Spectrum £5.95.

(100% MACHINE CODE ARCADE ACTION)



THE DEVIL RIDES IN

I uttered the last incantations as the clock struck thirteen. All fell silent except for a faint rustling in the corner. From out of the shadows they came, all Hell's fury against me but I was not defenceless until the Angel Of Death, astride a winged horse, joined the battle. Avoiding his bolts of hell fire, I took careful aim. My chances were slim, but if my luck held . . . 48K Spectrum £5.95.

(Fast moving, machine code, all action, Arcade game)

## RANGE FROM CARNELL SOFTWARE



Available through most good computer stores or direct from: Carnell Software Ltd, North Weylands Industrial Estate, Molesey Road, Hersham, Surrey KT12 3PL. Dealers: Contact us for your nearest wholesaler.



# robot ship under your control. cow! Moving the Ship

By Daniel J. Bishop

Ever tried chasing space cows in the asteroid belt? If not, try this game for the BBC Micro Model B and Acorn Electron it could send you crazy! These creatures are really awkward. . . .

The game has been tested on both the BBC and the Electron. It has been especially written to be equally good on both machines, taking full advantage of their speed, hi-res graphics and superb synthesiser sound. It also works with discs and joysticks.

When you run the program, you are presented with a title page. You may press 'I' to see the set of brief instructions included in the program. You may press 'S' to start the game, or if you have a joystick you may start the game by pressing its firebutton.

The screen display is drawn and the game starts immediately with an audible bleep. At the top of the screen is the title of the game. At the bottom left is the current high score. The time elapsed since the start of the game is printed at the bottom right. The rest of the screen is randomly filled with twenty white asteroids of varying size. In the centre is a flashing square pattern — this is the teleport. Below it is a flashing 'cross' — this is the

Somewhere else on the screen is a magenta coloured 'round thing', with legs and head sticking out — this is the space

You can move your robot ship around the screen by using a joystick or by using the following keys: Z — left, X — right, : up, / down. The cow will always try to run away from you, but you have to chase it onto the teleport in the centre of the screen in the shortest possible time. Try not to hit too many asteroids with your robot ship or drive the poor cow into the asteroids. If you do, you hear a nasty crunching, scraping sound as the asteroid disintegrates. You then get penalty points added to your elapsed time.

Try to get as many cows onto the teleport as quickly as possible. When a cow moves onto the teleport, the teleport flashes madly and emits an amazing sound effect as the cow vanishes. You are also given your score for that cow at the bottom of the screen. Then, with a bleep, a new cow appears for you to chase. The game becomes progressively faster. At top speed it can be a hair-raising experience. The game ends of either you crash onto the teleport yourself or you crash your robot ship into the cow. There is a colourful, noisy explosion and the game finishes.

If you have scored among the top nine players, you will be told your position and asked for your name. Finally you are presented with the 'Hall Of Fame' which lists the top nine scores and the players who achieved them, ranked in order. Press any key to play again, if you can stand the frustration.

Variables Used

ASTPOS%(19, 1) Co-ordinates of asteroids (graphics absolute).

COWPOS%(1) Co-ordinates of space cow (text absolute).

SBOTPOS%(1) Co-ordinates of robot ship (text absolute).

SCORE%(8) Top nine scores. Top scorers' names. NAME\$(8) JPOS0%, JPOS1% Joystick positions.

TP0%, TP1%, TP2%, TP3% Boundaries of teleport region (graphics absolute).

SID0%, SID1%, SID2%, SID3% Boundaries of playing area (graphics absolute).

A% Always has value of 135, i.e. puts 135 into accumulator for the OSBYTE calls in lines 800 and 860.

SPEED% Current speed of game.

SCORE% Total score for current player.

HISCORE% The current hiscore.

TITLE\$ Program title, i.e. "ASTEROID CHASE".

JOYSTICK% Whether a joystick is in operation or not.

GAMEND% Whether game has ended or not.

N0%, N1%, N2%, etc. Utility numeric variables.

L0%, L1%, L2%, etc. Utility loop control variables.

X0%, X1%, Y0%, Y1%, etc. Utility coordinate variables.

S0%, S1%, S2%, etc. Utility string variables.

#### RUNdown

Lines	Action	
10-50	Remarks.	Marie
60	Error handling.	MINHINE
70-180	Procedure calls.	THEFT
190-1620	Procedure calls.	
190-400	DEF PROCinitO: a only initialising is de	
410-490	DEF PROCinit1: res	

ing is done. 500-650 DEF PROCtitlepage: produces title page.

DEF PROCdisplay: produces 660-740 game display

750-930 DEF PROCgame: the main game procedure which is repeated until the game ends. Note lines 800 and 860 contain OSBYTE calls (A = 135) which return zero if the character at the text cursor is unreadable i.e. an asteroid is there. See Acorn Electron User Guide page 237 or BBC Micro User Guide page 432.

DEF PROcow: picks a random 940-960 position for the cow.

DEF PROCexplosion: graphic 970-1050 and sound effects.

1060-1200 DEF PROCgone: cow is teleported.

1210-1470 DEF PROCscorepage: calculates new rank and displays 'Hall of Fame'.

1480-1620 DEF PROCINSTRUCTIONS: displays brief instructions on how to play.

REM/ ASTEROID CHASE / A GAME FOR ONE PLAYER / REM/ WRITTEN BY DANIEL J. BISHOP / REM/ VERSION 1.0 / 1 OCT 1983 / REM/ DISKS & JOYSTICKS COMPATIBLE / PROCimit0 REPEAT MODE 6 PROCtitlepage MODE5 PROCdisplay REPEAT

REM/ NEEDS : BBC MICRO MODEL B / ACORN ELECTRON / ON ERROR MODE6:PRINT':REPORT:PRINT" at line ";ERL: END 70 90 100 110 120 130 140 PROCGame 150 UNTIL GAMEND%=TRUE 160 MODE 6 170 PROCscorepage UNTIL FALSE 180 DEF PROCinitO 190 LOCAL NO%,LO% 210 DIM ASTFOS%(19,1), COWPOS%(1), SBOTFOS%(1), SCORE%(8) 220 JFOSO%=1000:JFOS1%=64520:TFO%=640:TF1%=800:TF2%=38 230 A%=135:HISCORE%=900:TITLE\$="ASTERDID CHASE" 240 NO%=HISCORE% FOR L0%=0 TO 8 250 SCOREX(L0%)=N0% 260 270 N0%=N0%-100 NAME\$(L0%)="\*" 280 290 NEXT VDU23,224,66,165,90,60,60,90,165,66 VDU23,226,186,124,57,127,127,57,124,186 310 VDU23,227,96,80,72,100,114,50,52,24 VDU23,228,120,196,226,209,233,242,250,108 330 VDU23,229,0,16,56,52,52,52,24,0 350 VDU23,230,128,72,16,4,32,2,72,1 VDU23,231,16,1,34,16,64,20,128,32 VDU23,232,64,4,32,0,2,16,68,0 VDU23,233,126,195,189,165,165,189,195,126 ENVELOPE1,1,126,-20,-126,12,3,12,30,0,0,-1,126,126 ENDPROC DEF PROCinit1 410 LOCAL N0%, N1%, N2%, N3%, N4%, N5%, N6%, L0% 430 N3%=TF0%+32:N4%=TF1%+64:N5%=TF2%-32:N6%=TF3%-32 440 N1%=SID1%-SID3%:N2%=SID0%-SID2%:FOR L0%=0 TO 19:N0 450 UNTIL NO%=FALSE:NEXT 460 PROCCOW 470 SBOTFOS%(0)=10:SBOTFOS%(1)=18 480 GAMEND%=FALSE:SCORE%=0:SPEED%=6 490 ENDPROC 500 DEF PROCtitlepage LOCAL SO\$,NO% 510 520 REPEAT 530 VDU23;8202;0;0;0; 540 VDU19,1,5,0,0,0 PRINTTAB(12,7)TITLE\$TAB(8,9) A Game For One Play 550 560 PROCinit1 PRINTTAB(6,14) Press 'I' for instructions TAB(2, 570 580 \*FX15,1 590 REPEAT 600 SO\$=INKEY\$(1):NO%=ADVAL(0)AND3 UNTIL SOS="I" OR SOS="S" OR NO%=1 610 620 IF SOS="I" THEN PROCinstructions 630 UNTIL S0\$<>"I" IF NO%=1 THEN JOYSTICK%=TRUE ELSE JOYSTICK%=FALSE 640 650 ENDPROC DEF PROCdisplay 660 VDU23;8202;0;0;0; 670 VDU19,1,7;0;19,2,9;0;19,3,5;0; 680 PRINTTAB(3,1)TITLESTAB(0,31)"HI=";HISCORE%;" TIME= 690 700 COLOUR2: VDU30,31,10,16,233 710 VDU5:GCOL0,1:FOR L0%=0 TO 19:MOVE ASTFOS%(L0%,0)-3 720 VDU4 730 SOUNDO,-10,0,3:TIME=0 740 ENDPROC 750 DEF PROCGame:LOCAL NO%:VDU30:COLOUR0:PRINTTAB(SBOT

, NAME\$(8) 4:TF3%=480:SID0%=944:SID1%=1264:SID2%=48:SID3%=48 %=FALSE:REPEAT:REPEAT:ASTPOS%(L0%,0)=RND(N1%)+SID3%:ASTPO S%(L0%,1)=RND(N2%)+SID2%:UNTIL ASTPOS%(L0%,0)<N6% OR ASTP OS%(L0%,0)>N4% OR ASTPOS%(L0%,1)<N5% OR ASTPOS%(L0%,1)>N3 er "TAB(9,11) "BY DANIEL J. BISHOF" 15) "Fress 'S' or 'firebutton' to start" 0 " ; 2,ASTPOS%(L0%,1)+16:VDU RND(3)+226:NEXT POS%(0), SBOTFOS%(1)) CHR\$224; 760 IF (INKEY-73 OR (JOYSTICK%=TRUE AND ADVAL(2)>JPOS1 %))AND SBOTPOS%(1)>2 THEN SBOTPOS%(1)=SBOTPOS%(1)-2 770 IF (INKEY-105 OR (JOYSTICK%=TRUE AND ADVAL(2)<JPOS 0%)) AND SBOTPOS%(1)<29 THEN SBOTPOS%(1)=SBOTPOS%(1)+2 780 IF (INKEY-67 OR (JOYSTICK%=TRUE AND ADVAL(1)<JPOSO %)) AND SBOTFOS%(0)<18 THEN SBOTFOS%(0)=SBOTFOS%(0)+2 790 IF (INKEY-98 OR (JOYSTICK%=TRUE AND ADVAL(1)>JPOS1 %)) AND SBOTPOS%(0)>1 THEN SBOTPOS%(0)=SBOTPOS%(0)-2 800 VDU31,SBOTFOS%(0),SBOTFOS%(1):NO%=(USR(&FFF4)AND&F F00)DIV&100:IF N0%=0 THEN SOUND0,-15,4,2:TIME=TIME+100 810 VDU30:COLOUR2:PRINTTAB(SBOTPOS%(0),SBOTPOS%(1))CHR \$224; VDU30: COLOURO: PRINTTAB(COMPOS%(0), COMPOS%(1)) CHR\$22 820 IF COWPOS%(0)<SBOTPOS%(0) AND COWPOS%(0)>2 THEN CO WPOS%(0) = COWPOS%(0) - 1

830 IF COMPOS%(0)>SBOTPOS%(0) AND COMPOS%(0)<16 THEN C OWPOS%(0) = COWPOS%(0) + 1840 IF COWPOS%(1)<SBOTPOS%(1) AND COWPOS%(1)>4 THEN CO WPOSX(1)=COWPOSX(1)-1 850 IF COMPOS%(1)>SBOTPOS%(1) AND COMPOS%(1)<28 THEN C OWPOS%(1)=COWPOS%(1)+1 860 VDU31, COWFOS%(0), COWFOS%(1):NO%=(USR(&FFF4)AND&FF0 0)DIV&100:IF NO%=0 THEN SOUND 0,-10,4,2:TIME=TIME+50 870 VDU30:COLOUR3:PRINTTAB(COWPOS%(0))COWPOS%(1))CHR\$2 IF COWPOS%(0)=SBOTPOS%(0) AND COWPOS%(1)=SBOTPOS%( 1) THEN PROCESSION(SBOTFOS%(0),SBOTFOS%(1)):GAMEND%=TR 890 IF COMPOS%(0)=10 AND COMPOS%(1)=16 THEN PROCGODE:P 900 IF SBOTFOS%(0)=10 AND SBOTFOS%(1)=16 THEN PROCEXP1 osion(SBOTPOS%(0),SBOTPOS%(1)):GAMEND%=TRUE 910 VDU4,30:PRINTTAB(0,31); "HI="; HISCORE%; " TIME="; TIM NO%=TIME:REPEAT:UNTIL TIME>NO%+(SPEED%\*5) ENDPROC DEF PROCCOW REPEAT: COWPOS%(0)=RND(10)+5: COWPOS%(1)=RND(10)+5:U NTIL COWPOS%(0)<>10 960 ENDPROC DEF PROCexplosion(X0%,Y0%) X0%=32+64\*X0%:Y0%=16+(31-Y0%)\*32 LOCAL LOX: VDU5 FOR L0%=0 TO 30 FOR L1%=0 TO 400 :NEXT MOVE X0%, Y0%: FLOTO, RND(128)-64, RND(64)-32: GCOL3-RND(4)-1:VDU RND(3)+229:SOUND &10,-15,RND(3)+3,-1:NEXT 1030 VDU4 1040 \*FX15,0 ENDPROC DEF PROCGONE LOCAL NO%,LO% NO%=TIME N0% = (100000/N0%)SCORE%=SCORE%+N0% 1110 SOUND 1,1,0,40 1120 FOR LO%=0 TO 100 COLOUR RND(4)-1:VDU30,31,10,16,233 PRINTCHR\$30TAB(0,31);STRING\$(19, ");CHR\$30TAB(6 ,31) "SCORE=";N0%; :NEXT 1150 COLOUR2: VDU30,31,10,16,233 1160 COLOUR3 1170 PRINTCHR\$30TAB(0,31)"HI=";HISCORE%;" TIME=0 IF SPEED%>0 THEN SPEED%=SPEED%-1 SOUND0,-10,0,3:TIME=0 ENDFROC DEF PROCscorepage LOCAL N0%, N1%, N2%, S0\$, S1\$, L0% 1230 VDU19,1,5;0; 1240 NO%=-1:REPEAT:NO%=NO%+1:UNTIL SCORE%>=SCORE%(NO%) OR N0%=8 1250 IF NO%=8 AND SCORE%<SCORE%(NO%) THEN 1370 1260 N1%=SCORE%:S1\$= "?" 1270 FOR L0%=N0% TO 8 N2%=SCORE%(L0%):S0s=NAMEs(L0%):SCORE%(L0%)=N1%:N AME\$(L0%)=S1\$ N1%=N2%:S1\$=S0\$ NEXT 1310 HISCORE%=SCORE%(0) 1320 VDU19,1,5,0,0,0 1330 PRINTTAB(13,3)TITLE\$ PRINT''' Congratulations...you have a rank of ";NO 1350 INPUT'' What is your name', SO\$ 1360 NAME\$(NO%)=LEFT\$(SO\$,12) 1370 CLS 1380 PRINT'''STRING\$(12,CHR\$227); ";TITLE\$; ";STRING\$ (12,CHR\$227); 1390 PRINT'TAB(14) "Hall Of Fame"' 1400 FOR L0%=0 TO 8 PRINTTAB(6); L0%+1; TAB(14); NAME\$(L0%); TAB(31); SCO RE%(L0%) NEXT PRINT'' "Fress and key to play again. ..." TIME=0:REPEAT:UNTIL TIME>100 \*FX15,0 NO%=GET ENDFROC 1480 DEF PROCinstructions 1490 LOCAL NO% 1500 CLS 1510 PRINT'STRING\$(12,CHR\$227); " ";TITLE\$; " ";STRING\$(1 2, CHR\$227); 1520 PRINT'TAB(14) "INSTRUCTIONS" ' "You are catching space asteroid belt. Use your robot ship to e cows in the guide the cow into the central teleport. ; 1530 PRINT'Be as fast as you can and try not to hittoo many asteroids. Do not crash your ship into either the teleport or the COW, " 1540 PRINT You may use a joystick or the keyboard to c ontrol your robot ship. The keys are as follows:" 1550 PRINTTAB(15)"Z -left"'TAB(15)"X -right"'TAB(15)" : -UP"'TAB(15)"/ -down" PRINT' "Happy hunting!" 1570 PRINT' \*<Press any key to continue>\*; 1580 TIME=0:REPEAT:UNTIL TIME>100 1590 **\*FX15,1** NO%=GET 1600 1610 CLS 1620 ENDPROC

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There are two levels of play.

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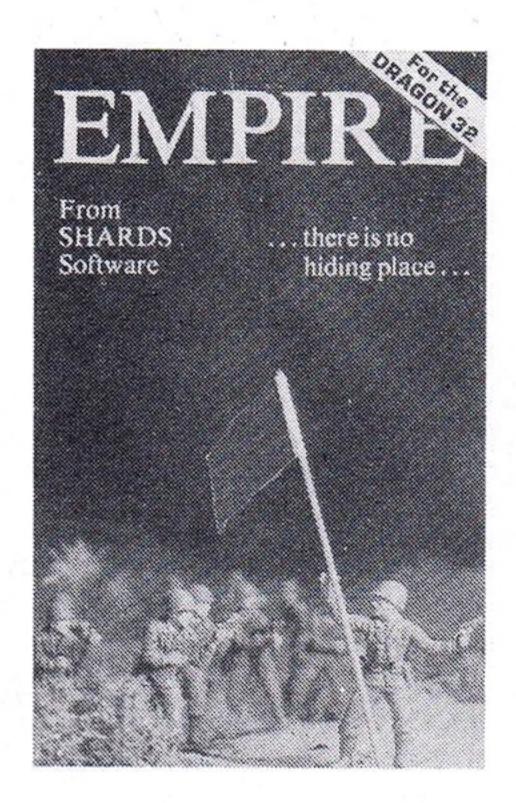
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In the battle for higher high scores a new joystick is often a wise choice for the hardened games player but costs £7.50 to about £30 and beyond. I have not included any trackballs, (large boxes which have a billard-type ball protruding from the top which can be spun in any direction in joustick fasion) in this review because they are still quite rare and expensive to buy.

All of these joysticks are reasonably good standard but value for money varies tremendously. So here goes . . . . .

## COOKBRIDGE SURESHOT £15.95

Cookbridge computer supplies have called their new joystick the Sureshot, a version of which is also available for the BBC and Dragon micro computer. Unlike any of its rivals it uses microswitches which give a very positive feel being both fast and accurate. It does not look as professional as some of its rivals but under the casing lurks a steel plate and some excellent design. The mechanism which works the fire button has superb feedback allowing some rapid fire. The only joystick which I think is superior is The Boss (also reviewed here).



#### **THE BOSS £16.80**

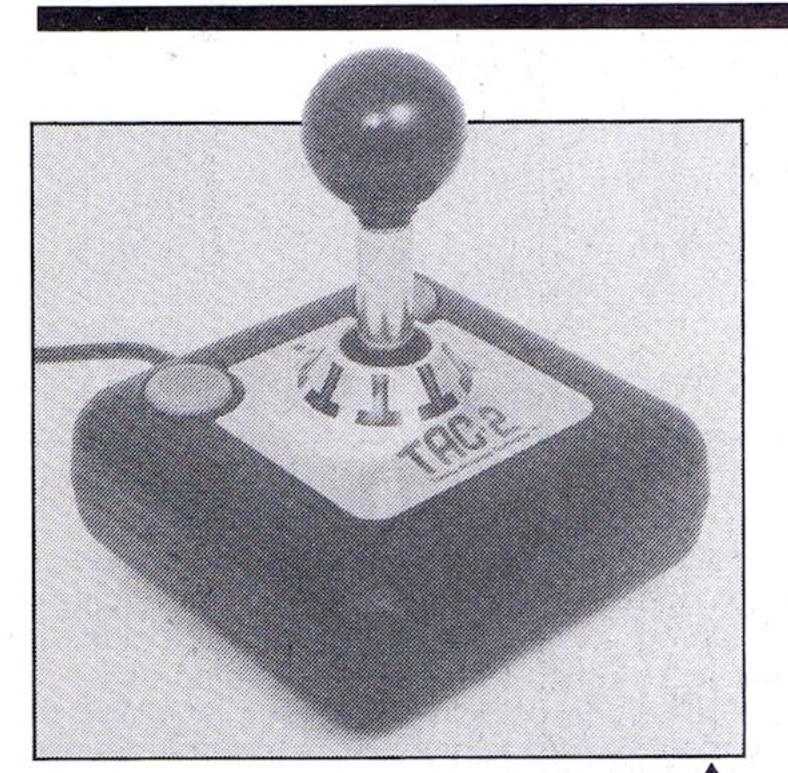
The Boss is not one of Wico's Command Control range, it is aimed at a cheaper market. This is not a very attractive joystick but what matters is the way it performs. The speed at which you can change direction is amazing and although not as positive as the Cookbridge it is just as much a pleasure to use. The handle is a comfortable grip shape which tends to make your hands sweaty. The single fire button is mounted on top of the stick and has the best spring I've come across. Coupled with its medium price and Wico's contruction this is my personal favourite and I thoroughly recommend it.





Playing computer and video games to the full relies very heavily on a really good joystick. In *Games Computing* Simon Rockman looks closely at a selection of those now on sale.

# JOYSTICK JANBORE



## SUNCOM TAC2 £18.95

The TAC2 is the pride of Suncom's range. TAC stands for Totally Accurate Controller — a boast which I feel is justified. The way in which it succeeds in being so accurate is by using the central shaft of the joystick as part of the electrical circuit, so that when you move it the shaft has only to touch a contact rather than close a switch. This makes for a very fast joystick with very accurate control. Minor complaints are the lack of play in the stick and lack of spring in the fire button.

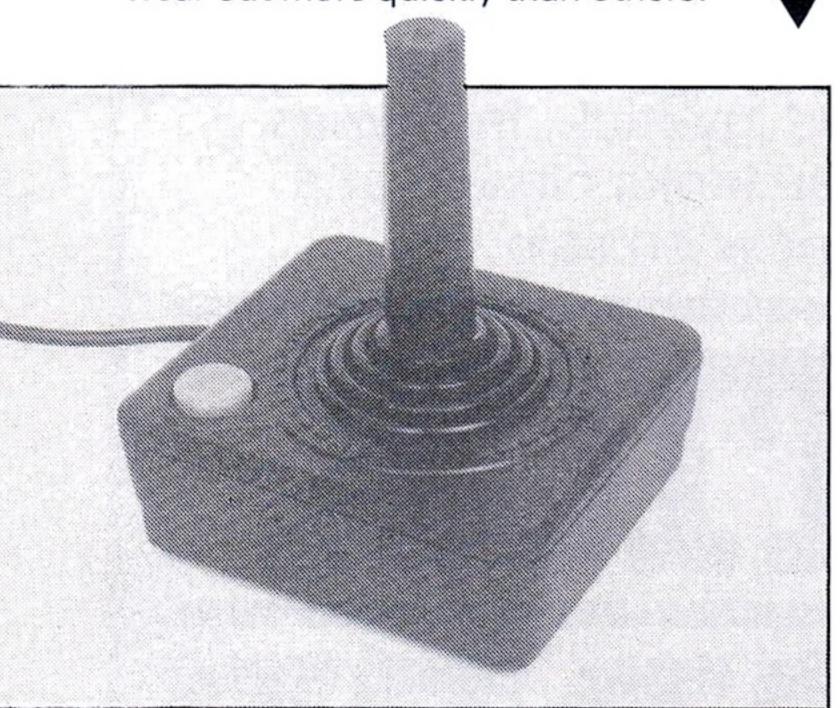
## SUNCOM SLICKSTICK £9.95

The Suncom Slickstick is tiny, the stick hardly moves at all and cannot really be classed as a premier joystick. The fire button does not have sufficient bounce and feels like a calculator key. Having said that it is really rather nice to use especially for the zapping aliens school of games, although it may lose out to its similarly priced rivals in maze games. It is cheap and probably the stick to buy with your new computer or to get the shop to throw in as a discount, if you can talk them into doing so! Dealers watch out!



## ATARI STANDARD JOYSTICK £7.50

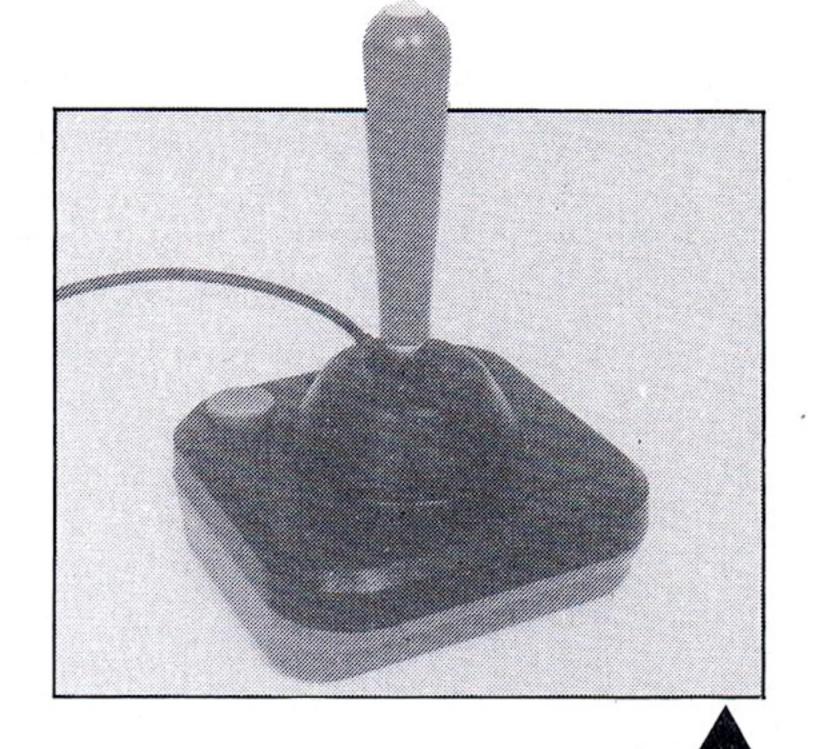
The first joystick is the Standard Atari product. It is the cheapest at £7.50 and also the most commonly used. By being the biggest firm in the games market Atari have succeeded in forcing a standard so that their joysticks will not only fit Atari machines (both computers and VCS) but Commodore, Sinclair ZX, Interface 2 and many American computers. Interface cards are available for everything from the IBM PC and Apple to the Sinclair ZX81 and Texas TI99/4A. All the joysticks in this review are Atari compatible. The Standard joystick is rather good. It uses pressure sensors such as those under the Spectrum keyboard pressed by extensions to the central shaft. It is a bit 'wooden' especially when new but once worn in it is excellent. The Atari is not for the over zealous player though because it is made purely of plastic and tends to wear out more quickly than others.



## POINTMASTER JOYSTICK £14.65

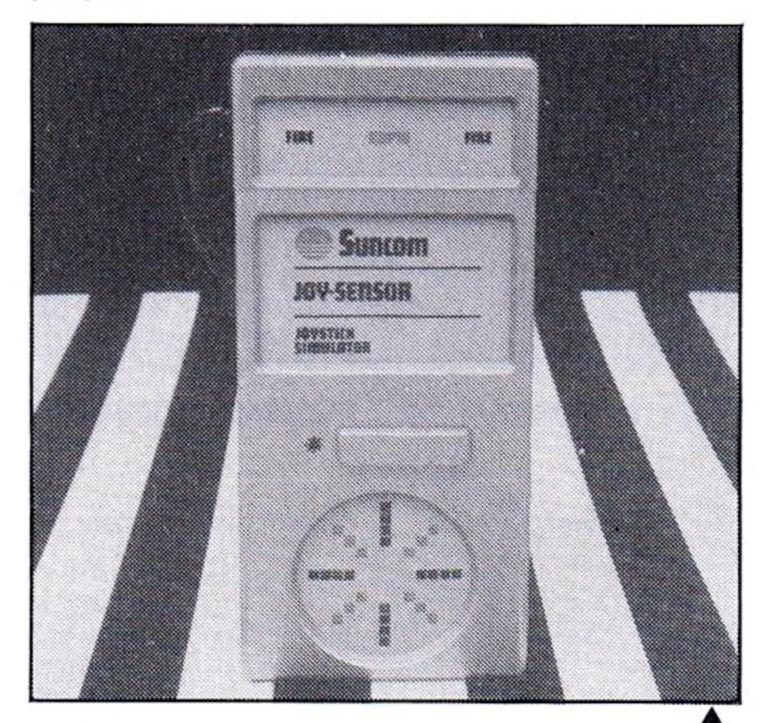
The Pointmaster is a very large joystick and suffers from slackness. While the forward movement is good, side to side movement ifeels vague. The base has large suckers to hold it on to a table but the suction is not usually sufficient for a hectic game like Frogger. One nice feature is the auto repeat on the fire button which means that as long as you hold down the fire button it will keep firing, which is very useful if you're under constant attack. The soggy feel and lack of ruggedness are serious detriments to the Pointmaster, however the packaging is of a high quality.





## COMMAND CONTROL STRAIGHT STICK £25.25

Wico's Command Control Joystick is the bottom of Wico's extensive range of high quality joysticks. Using leaf springs it has a real arcade feel to it. The narrow, tapered handle has a nice feel and gives a good sense of direction. The use of steel for any part which may be subject to wear makes for an exceptionally strong joystick. This is one of the few joysticks which has bouncy enough fire buttons. There are two buttons, one on the base in a conventional fashion and the other on the top of the stick. You select one of the two buttons with a small switch on the base. This is a good joystick but the price limits it to only the dedicated games player.

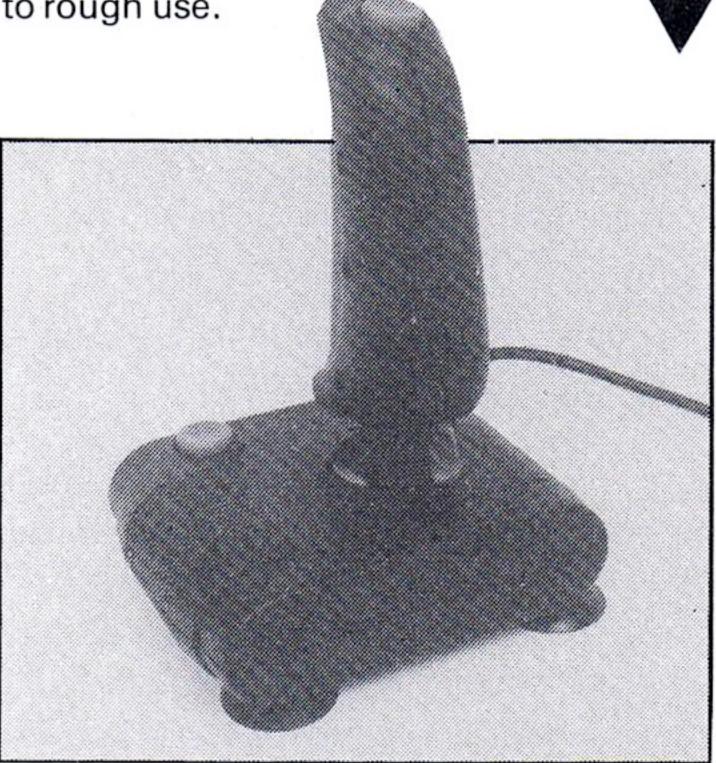


## SUNCOM JOYSENSOR £29.95

The Suncom Joysensor calls itself a joystick simulator. It has a touch sensitive pad where the stick should be. In practice you tend to run your finger around this similar to using Intellivision paddles. It is more like a set of buttons than a joystick. For the type of game which requires accuracy but not speed it is very good. However, the need to stop and work out where your finger should be slows you down too much for quick reaction games, despite the maker's claim that it is faster because you do not have the friction of the stick to overcome. The fire buttons are very poor, probably because you have to lift your finger as well as press down due to the lack of a spring. There is a rapid fire button but this was unreliable, often not firing and sometimes only in short bursts. With its "Beam me up, Scotty" looks I feel it is really an expensive novelty, but perhaps worth having for a Christmas present!

## SPECTRAVIDEO QUICKSHOT £9.95

The Spectravideo Quickshot looks great, having suckers on the bottom and a banana shaped handle which is very comfortable to hold. As with the Pointmaster the suckers are not really strong enough to ensure stability. Fire response is fair, although like most of the joysticks it would benefit from a stronger spring. The internal workings are very similar to those of the standard Atari joystick using pressure pads. It is entirely plastic in construction and therefore may not stand up to rough use.

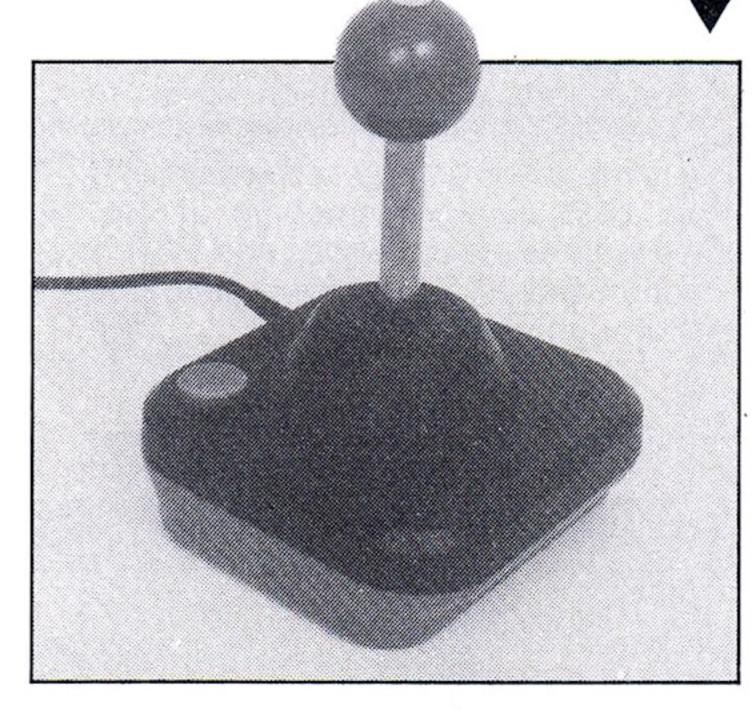


## WICO 'FAMOUS RED BALL' £29.95

This is a really first-class joystick for the true arcade games enthusiast.

Like the basic Command Control joystick it has fire buttons on the stick and base with a switch to select between them. The ball handle is comfortable to grip, while the steel shaft and springs make for a robust joystick with the kind of excellent responses you would expect at this price.

My only criticism is that the shaft is a little on the long side of comfortable. As with all the WICO joysticks firing is smooth and rapid. Thisis a very good joystick, but taking the price into consideration is only worth buying if you play arcade games morning, noon and night!



## WHERE TO BUY YOUR JOYSTICK

These joysticks can be obtained from the Silica Shop (01-301 1111) who loaned them to *Games Computing* for the review. Cookbridge Computer Supplies can be contacted direct on 0532 670625.





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# ELECTRONIC

With Christmas just around the corner now's the time to look for the odd present or two — maybe something expensive or a couple of smaller stocking fillers.

Jane Price took time out to find out what she wants (or doesn't want) for Christmas and helps you decide too.

#### SYSTEM: VECTREX

Manufacturer: Milton Bradley Price: £129.95

This exciting system is a leader in the field of electronic video games. The unit consists of a large upright screen underneath which is a control panel, fitting neatly inside the machine for storage but which can be moved away for more efficient operation when the game is in use. This control panel is equipped with a minipoystick and four buttons, for movement and FIRE.

## Design

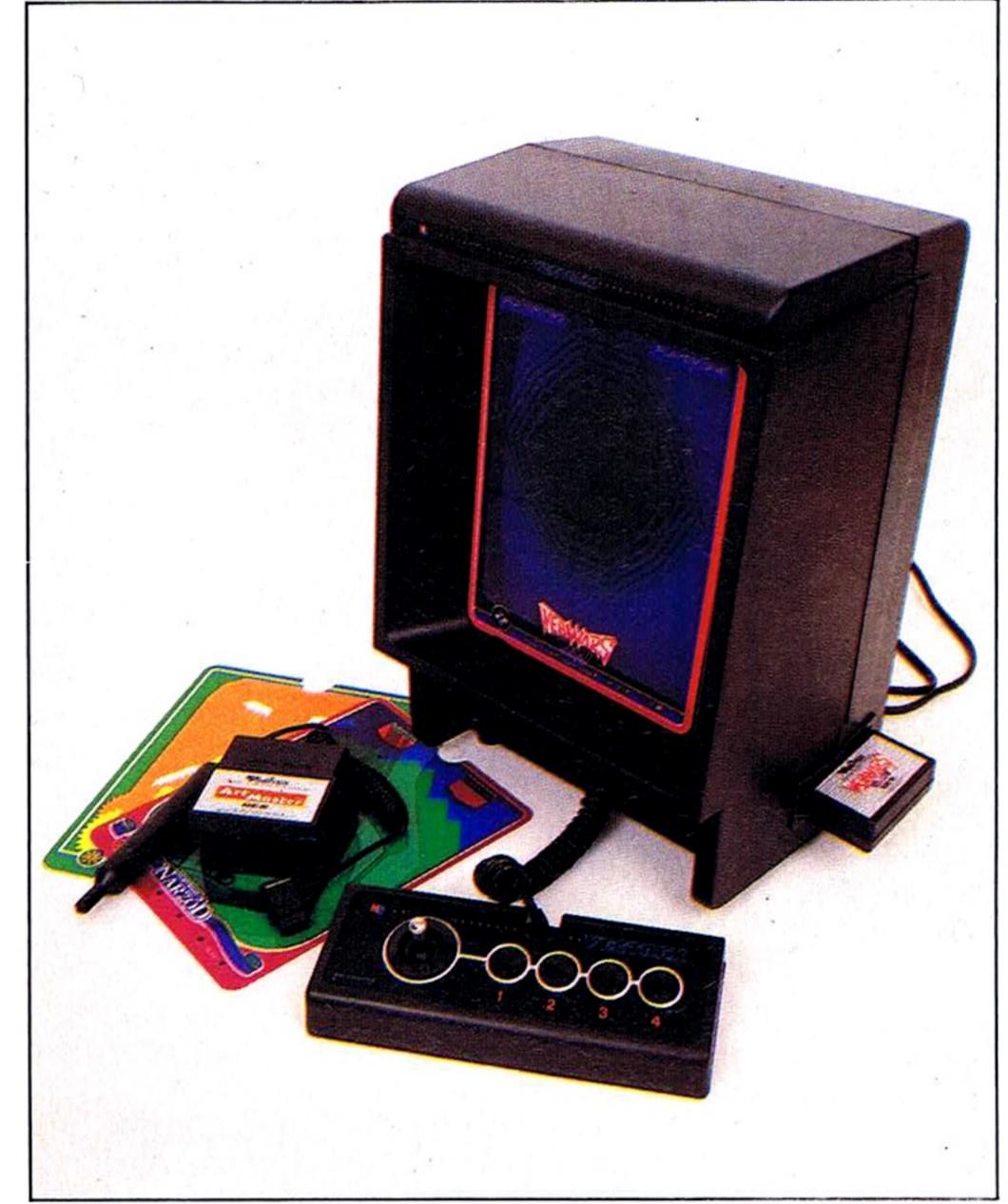
The screen is angled and has perspective (a function which is intensified and used brilliantly during game play) and each game cartridge is supplied with a screen overlay providing coloured graphics. This is a clever idea allowing the machine to produce black and white graphics, which are then converted to colour when viewed through the overlay. Added advantages of this overlay are that flicker is kept to a minimum and the vectors in use in the game can be explained.

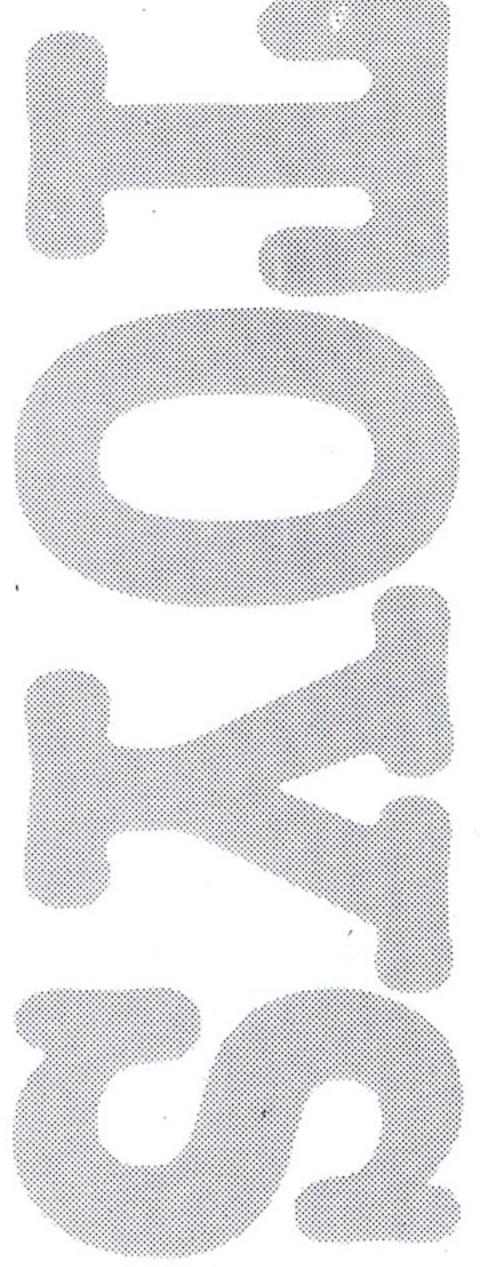
## **Revolutionary Graphics**

The Vetrex system frees the ordinary domestic TV for other things, though any family owning this system probably has litle time for watching mundane TV programmes! In addition to this, having a dedicated system allows for the luxury of a vector plotted display. This works by physically drawing the pattern to be displayed on to the phosphor screen and to continually redraw the same pattern to give the illusion of solid lines and therefore of solid objects instead of moving dots. Consequently all the lines are smooth, even the steep curves in 'Pole Position'. All this means that the Vectrex can achieve the quality of graphics normally possible only on a system costing thousands of pounds.

## **Outer Limits**

However, little is perfect and the Vectrex is limited in two respects. It doesn't actually have screen colour, as explained, and there is a limit as to how much can be on the screen at any one time. When the action is too intense flickering becomes a problem. The reason for this is that the system doesn't have enough time to con-





## WHAT'S IN STORE

tinually overdraw all the images and some consequently begin to disappear before they can be redrawn, hence flicker.

Since the screen content at any one time is limited, all shapes are drawn in outline only. The speed of refresh and the good straight lines make it an ideal medium for 3D rotation, a facility which it carries out extremely well and which is demonstrated to good advantage in many of the cartridge games, particularly 'Web Wars', one of the latest releases.

The sound is good, comparable with the BBC micro for example, and one of the new cartridges 'Spike' has quite good, and certainly understandable, speech synthesis.

Although expensive the Vectrex system is the best of its kind, versatile with good software back-up. As for entertainment value, all I can say is that the one we had for review was in constant use by anyone 'who just happened to be passing by' the office, and these all hardened computer game addicts so they knew what to look for! Higher recommendation I cannot give and I'm sure any family would derive hours of entertainment (and not a little frustration) from such a high quality product.

## TITLE: ART MASTER AND VECTREX LIGHT PEN

Manufacturer: GCE (Distributed by Milton Bradley)
Price: £30.35 including Cartridge (ap-

proximately)

This is the most educational cartridge which with the light pen proved to be extremely popular entertainment. The software is of such high quality that the light pen worked perfectly. The cartridge contains three major programs called Sketch, Connect and Animate.

Sketch allows you to draw lines and points, drag and stretch these lines across the screen and to draw fans. Connect just allows you to draw dots and to connect them with lines, all with high resolution. Animate is the program which really makes the cartridge, giving a real animation effect to all your pictures.

This program gives you all the features of Sketch bar the fans but you can divide the pictures up into frames and then play them through one at a time. The only un-

fortunate thing is that when the machine is switched off, your masterpieces disappear because there is no way of storing them, which can be soul-destroying if you've taken a long time drawing them.

All in all this cartridge will without doubt provide every member of the family with hours of fun — it really is a pleasure to play and relax with.

## TITLE: BEDLAM

Manufacturer: GCE (Distributed by Milton Bradley)
Price: £22.95

I found this the least exciting of the new releases for the Vectrex system.

The plan is to control a spaceship fixed in the centre of the screen. The play area is confined to a sector which consists of a collection of triangles. Initially this is a diamond but this progresses level by level up to a six pointed star. After this the shape starts to rotate. From the apex of each point comes a nasty assortment of aliens, escort ships, astral defenders, droids and colonist transports.

You are armed with an 'anti-molecular' cannon and a smoke bomb. The game is a bit like 'Asteroids' in that you have to blast all approaching baddies with a bonus cannon every 10,000 points. Quite entertaining for short periods but has limited graphics.

## TITLE: SPINBALL

Manufacturer: GCE Price: £29.95

Pinball on a computer has never been the greatest of games but this implementation is very impressive.

There is a pause facility and buttons for LEFT and RIGHT flippers. The table can be nudged by tapping the joystick, but not too much or it tilts like the real arcade machine. There are drop targets which must be hit in sequence and 'hidden' bonuses. Some very high combination scores are possible.

One slight criticism is that the high level of detail causes the screen to flicker rather noticeably. Definitely a game to get hooked on!

#### TITLE: WEB WARS

Manufacturer: GCE Price: £22.95

Another new release for the Vectrex system. This is an excellent cartridge with good use of colour overlays and shifting perspective. Having, by the magic of Web Wars, been transformed into a Hawk King, you must fly down a Tempest-style web and destroy the drones which act as an escort to the fantasy creatures.

With your capture rod you must impale the fantasy creatures and then fly down the tunnel and out through a porthole. On the other side of the portholes lies the Trophy Room, a store room for all the fantasy creatures you capture. With each creature attack the speed at which you fly down the tunnel increases making the game harder and harder. This was the most popular game out of those we reviewed until we discovered Fortress of Narzod, a review of which follows shortly.

## TITLE: FORTRESS OF NARZOD

Manufacturer: GCE Price: £29.95

Armed with only a hovercraft (?) you have to fly along lower, middle and upper roadways blasting Doomgrabbers, Tarantualas and Ghouls. The roadways are not straight however, and bullets bounce off the walls making it difficult to prevent shooting yourself!

It takes a while to master the use of the gun and ricochets, but the game is all enveloping and compulsive. Each level brings you closer and closer to the fortress, the game exhibiting excellent use of persepctive while flying you down the tunnels.

The mystic Hurler lives in the fortress and he delights in throwing spikers at you. His life is worth a mere 10 points, but he has to be shot six times before he dies and rewards you with a bonus hovercraft.

An absolutely gripping game which kept staff quiet for ages!

All the cartridges were supplied with detailed instructions and we had no problem loading them and lots of fun playing them. Look out for the other new releases: Football/Soccer at £29.95 and Bedlam at £22.95. Available from all good toy shops. Also coming in the future is a pair of 3D goggles which truly transform the system into a marvellously exciting game. On show at a French exhibition the game we saw was a version of the Star Wars trench shoot out in which the player flies a space ship down a narrow shaft, shooting enemy craft along the way and ultimately destroying the Death Star.

Watch out in your newsagent for Games Computing and this incredible new addition from Vectrex.

## **GAME: DR DENTAL**

Manufacturer: Bandai UK Price: £11.00

The name suggests that this might be a game to get your teeth into! Compared to the other Bandai electronic small screen

games I tried, this one at least had a sensible and understandable theme.

The game involves a dental nurse shooting at 'bugs' in a patient's mouth, an occurrence which might be commonplace in Japan but which is thankfully rare enough here to cause some confusion as to how the game is played.

In fact, the 'bugs' attack the teeth (the dreaded plaque attack strikes) and must be destroyed before they have eaten their way through three layers. If they succeed in their unpleasant purpose they cause pain to the patient, tears ensue and the game is over. There are two levels of play — fast and faster!

The packaging, like the other Bandai toys is sturdy enough, though lacking the quality feel and look of the GLC products. The keys, LEFT, RIGHT and FIRE are rubbery and slow to respond and the sounds are unimaginative — not one scream was audible! The led graphics are simple, but detailed enough for this level of game. The highest score for each game is remembered and displayed and a clock is included.

Not a game which held my interest for long and which I feel is overpriced and not likely to fire anyone's imagination.

## **GAME: BURGER BAR**

Manufacturer: Bandai UK Price: £11.00

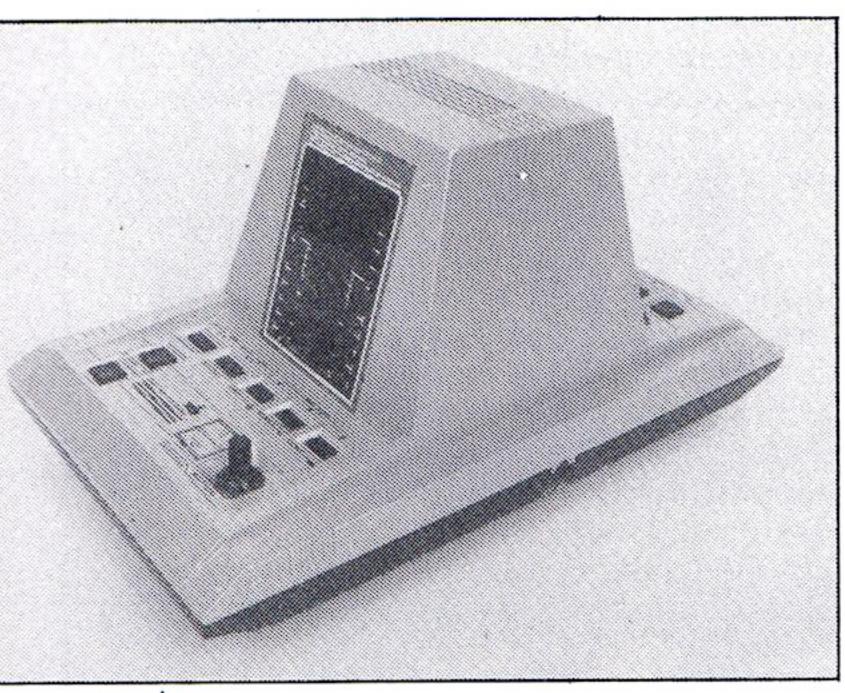
This game defeated me completely! A cheap plastic case with tightly packed, unresponsive keys surrounded a tiny screen showing simple black graphics.

From what I could gather of the game through watching the action and reading the instruction leaflet, an order of one to four items is displayed pictorially. One blink and it's gone! The waitress must be moved to one of three hatches through which the various items pass in a random and constantly changing pattern. Everything happened too fast for the keys to cope with and consequently frustration ran high!

The idea behind the game was quite novel and could have proved entertaining had the design been better and more thought gone into its production. Again the highest score was recorded on the screen and a digital clock was included in the game.

The price, however, is unwarranted.







## **GAME: U BOAT**

Manufacturer: Bandai UK Price: £39.00

The only two player game we had the chance to review and one which left us somewhat confused.

Like 'Vampire' the casing is in sturdy plastic, and shaped rather like a U Boat. The sloping screens were placed back to back with each player's set of control buttons in a panel below the screen. Again a miniature joystick controlled the action, in addition to two FIRE buttons.

There are three games possible: two player action, COM versus U Boat and COM versus Destroyer. All are somewhat dificult to understand even with the instructions supplied. The screen displays the situation either from the Destroyer's side or from the U Boat's. Coloured striations give some idea of the depth of the U Boat which is firing torpedoes at the Destroyer while the latter drops depth charges in retaliation.

A confusing game with little novelty value and a very high price!

## **GAME: VAMPIRE**

Manufacturer: Bandai UK Price: £35.50

At this price you would expect a game not only of outstanding and lasting entertainment value but also one packed in a durable casing with efficient action keys.

The casing is of sturdy plastic painted grey and black with an angled screen showing coloured graphics of limited detail. There is a miniature joystick, which is quite difficult to manoeuvre, and a START/JUMP button. The grating sounds can thankfully be switched off.

Now to the game itself and how it's played. The ultimate aim is for the prince (he's the one with legs) to rescue the fair princess (plus crown but without the legs) from the evil clutches of the vampire, who tries to put a spoke in the works by throwing bats down the floor of the castle.

The prince is able to move in four directions — upwards being achieved by means of the JUMP key which is very temperamental and likely to fail you at the time you need it most. By this method the prince should jump over the bats. If he fails he gets a very nasty attack of bloodletting.

When the princess has been rescued the poor prince must start climbing

through the floors all over again, but this time he has to manoeuvre not only blood sucking bats, but also gaping holes which appear in the floors. After a further rescue and several more points being gained, the third and final scene is set up.

This time the prince uses a lift to collect various pieces of hardware (and points) before releasing the princess for a final time from the clutches of Vampire Victor. We are left to imagine whether or not they live happily ever after! You probably won't having paid out this exorbitant price for a game, which although novel in idea lacks the necessary quality of design to make it entertaining.



## **GAME: BREAKOUT**

Manufacturer: Bandai UK Price: £16.99

Another cunningly oriental solar powered travel pack with use limited to within 12 inches of an artificial light source!

The game appears to be based on 'What is the time, Mr Wolf?' and entails a convict moving from his bed to saw through the bars of his cell window. If he is seen doing this by the prison warden, who randomly patrols the cell, he loses a life. Three lives later, the game is over.

However, if you survive the evil eye and saw ten times through each of the four bars, the convict escapes to the prison yard where he has to evade dogs and bullets to reach a getaway car. Bonuses are given for successfully sawing through the bars and for reaching the car without mishap. All these bonuses are well-deserved especially in the prison yard since there are no UP and DOWN keys and dodging the various hazards is very difficult indeed as the action happens so quickly.

Again, not a very involved game but play is possible and not frustrated by poor design and insensitive movement keys. Quite addicitive too!

The game is housed in two parts which are joined by a hinge and close up to form a case which is ideal for travelling or carrying in a briefcase or satchel.

## Game and Watch

Game and Watch have been steadily popular toys for a couple of years now and seem to go from strength to strength with each new batch they bring out.

This trio is no exception and sport great graphics and colour screens. The first one

I looked at was called **Donkey Kong** Junior. This is a single game with a digital clock tucked away to the top left of the LCD screen. What you have to do in this game is move a monkey up through a path and grab a swinging key with which to unlock the cage containing Kong. It's really difficult to play because you must watch out all the time for snapjaws and birdies, both of which will kill you if your monkey makes contact with them. The game seems to be over all too soon as your three monkey lives are notched up on the screen. You can get rid of either the birds or snapjaws by dropping a specially positioned cherry on them. You can also score points for each one you dodge. Grabbing the key at the top of the screen is extremely hard to judge. In one way this is good because it makes you so frustrated that you want to keep on playing! If you miss the key your monkey falls straight through a hole into a pit at the bottom of the screen. Another life lost . . . so start again.

## **GAME: FROGGER**

Distributor: CGL Price: £32.95

A well made, well designed version of the classic arcade game. Encased in tough, yellow plastic, the angled screen is colourful and easy on the eye. Markers up the edge of the screen describe the different



levels of passage and the obstacles to be avoided on each. The score is brightly displayed in the centre of the screen and flashes when the game is over.

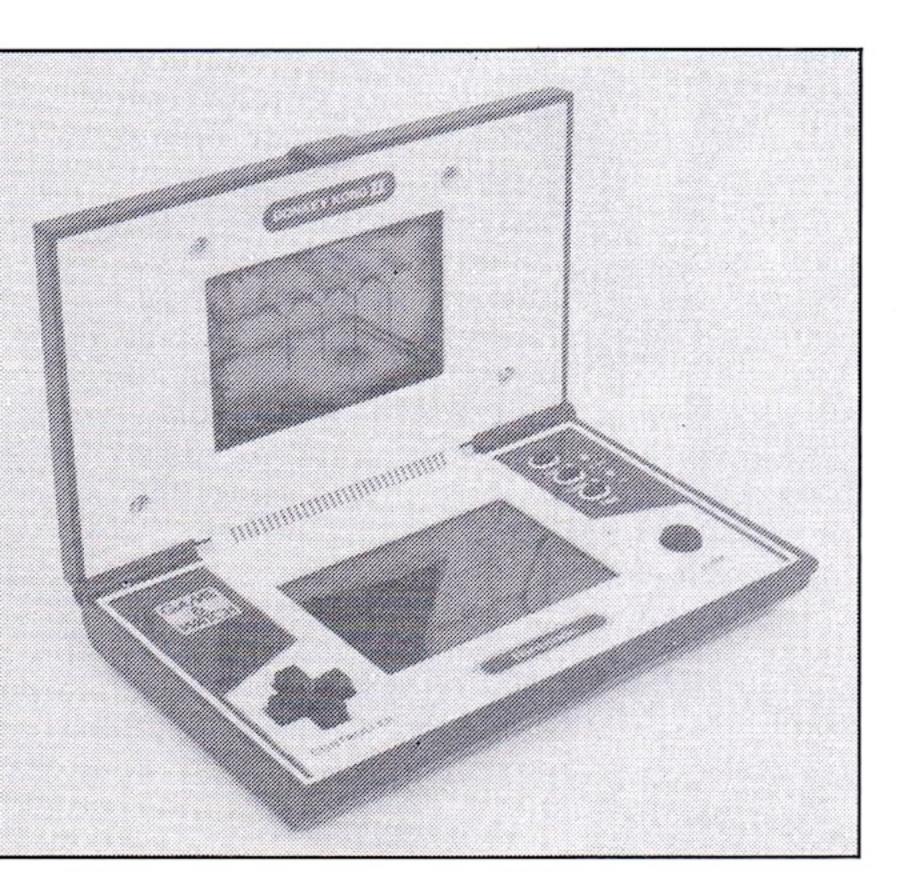
For those unfamiliar with the game of Frogger, the object is to move a frog across a road dodging traffic as it goes. Once across you then have to move it over a river by using a variety of obstacles as stepping stones.

Control is achieved by a centrally positioned joystick which is perhaps a little too touch sensitive, making manoeuving more difficult than it need be — but this adds to the skill required.

All in all, an entertaining game giving value for money in a neat package.

## **GAME: DONKEY KONG**

Donkey Kong was the most difficult of the CGL games to play. Another of the two screened variety it really is complicated. The best way to approach it is to read the instructions very carefully and then have a go at the game itself. Once more you have to free the enchained Kong who is positioned at the top of the second screen. You must move a monkey along the lower screen avoiding snapjaws and bursts of overhead electricity current.



Once you get the monkey to the top of that screen, by jumping and hanging on to trailing vines he pops up on the top screen. There he has to climb and grabs the key to unlock Kong's chains.

On each of these games there is a four directional key and a jump button which is vital to use if you want to come out on top. All three games are really good fun to play even if they are anti-social. Once you



Mario Brothers was the second Game and Watch that I attempted to conquer, this time with more success I'm glad to say. This is a double screen game set in a plastic casing and joined by a hinge so the two games form a neat little case which you can easily carry in a jacket pocket or your school satchel. So those bored moments on the bus will be no more!

Here the aim of the game is for Mario to pass cases of bottles to his brother Luigi, who ultimately flings each one on to a truck until it's full up. The graphics in this game are superb. As the crates pass along a conveyor belt vack and forth between screens you can see them being filled, packed and wrapped in minute detail. If Mario or Luigi let a crate fall there's a delightful sequence in which the foreman comes running out of the office and screams at the culprit for dropping the case.

Another similar graphics feature is the lorry driver. When six cases are safe and sound inside the lorry the driver pops up from the cab and starts screaming at Luigi for the final two to make up his load. If you get those two into the truck it pulls away and after a victory tune the game begins again but more faster and furiously. The scoring system is one point for each case loaded on to the lorry and 10 points for a full lorry load. It sounds fairly easy to play but in actual fact is is quite difficult because the cases move along the conveyor belt quickly and at random intervals making it awkward for you to move either Mario or Luigi to the belt level in order to catch the case. Of all this type

years and upwards. There is now so mcuh good educational software on the market that I'm not too sure of the logic behind paying out £60 for such a limited machine.

However, on review the unit proved to be extremely user friendly — an important point when such tiny fingers and minds are involved. Instead of a keyboard, there is a touch sensitive panel upon which various illustrated 'programs' are placed. Pressing the 'on' area produces an 'hello' (spoken in an American accent). Longer words and more complex sentences show up the limitations of this simulated voice, which to adult ears was fairly offensive

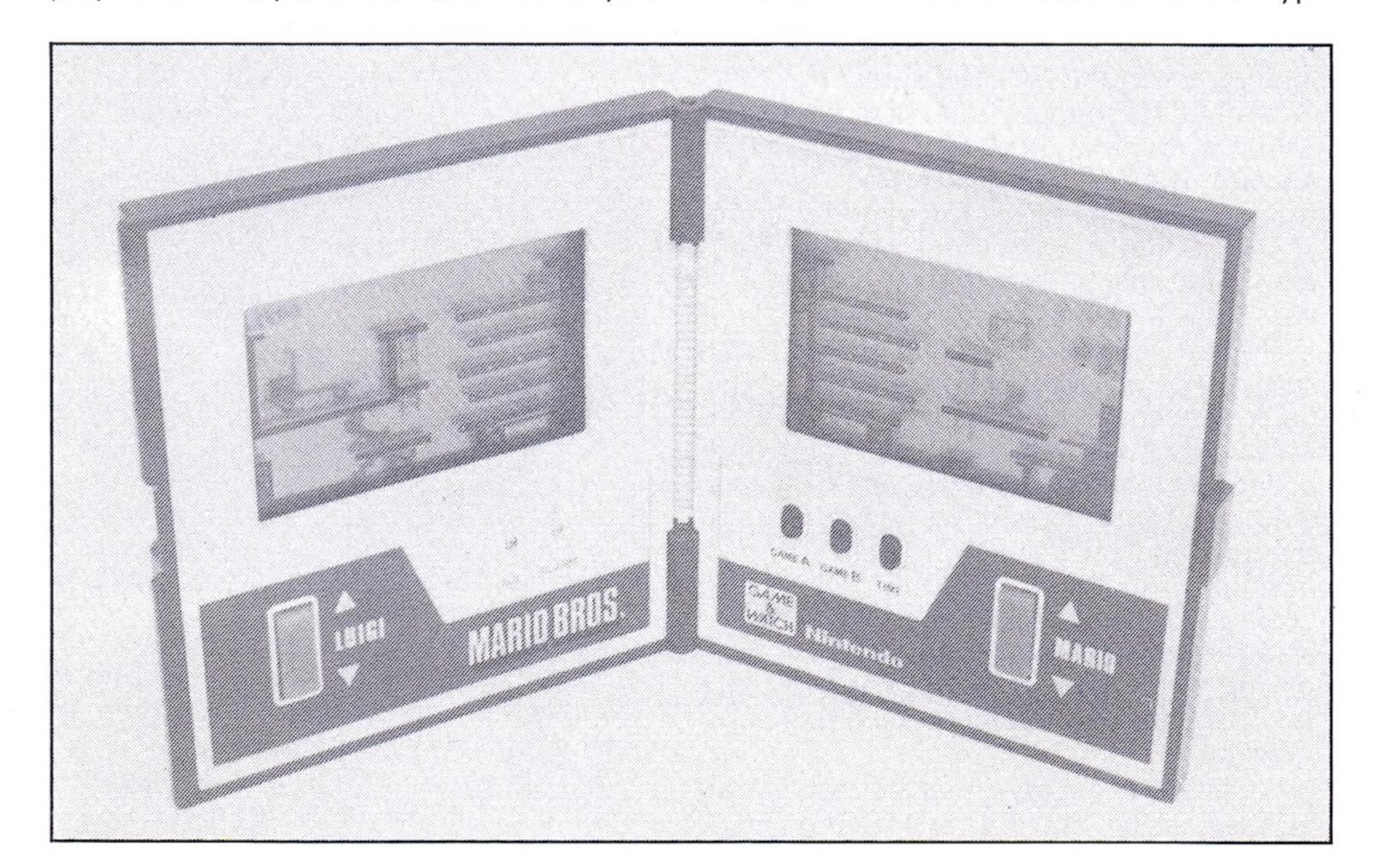


and at times, more than a little incomprehensible. Younger ears had less difficulty in understanding the commands.

The program inherent in the machine is aimed at teaching the time, identifying pictures and numbers and basic maths. The clock program is probably the best and proved to be the most popular with my young reviewers. The clock face is complete with raised movable hands which are pressed to pass on the information to the computer. Remember, although this is called a computer you can't program it yourself.

The data socket on the front of the unit is easily removed (perhaps a little too easily for busy, exploring fingers) and new cartridges can be inserted with different programs such as spelling, vocabulary,

music and 'many more'.



start playing you'll find you'll just want to better your score each time.

And precious little will stop you. These then are only a few of a whole range of similar type games. Value for money at times seems hard to justify, particularly Donkey Kong Junior which has a price tag of £19.95 with the other two games selling for £23.95 each including VAT. Perhaps you could twist a generous uncle or aunt's arm into buying you one for Christmas. Finally, in comparison to the Bandai range of similar products CGL's beat them into a cocked hat, and make them seem better value for money.

of game tried the Mario Brothers proved the most popular in our office and it would make a great present for little and 'big' kids alike.

## MY TALKING COMPUTER

Manufacturer: Electroplay Price: aprrox £60.00

My Talking Computer has been designed as a 'first' computer for children of three

## Design

The unit is attractively packaged in tough beige and cream plastic. All parts are easily removable and most importantly, have rounded childproof edges. One criticism is that the data socket cover is too easily removed, exposing an area damage-prone to exploring fingers. Another plus point is that the surface and all the 'program' sheets are wipe clean.

In summary therefore, My Talking Computer is quite a clever, user friendly machine which kids will love. Thus learning should be quick and fun.

However, I must stress that there are many user friendly educational programs available for the major home computers and such a system would be capable of instructing the *whole* family from toddler to grandpa, which would seem to be a more economical way of educating the family.

## ATLAST, A HOME COMPUTER THAT IMPROVES WITH AGE.



#### T's surprising how many first-time relationships with a home computer go sour with age.

You buy an attractive, discounted little machine so that you and the children can learn about computers.

Instead, you learn about its limitations: the dull graphics. The plugs that fall out. The cheap power supply. The unalterable "beginners" language. The stiff, fragile keys. No provision for future developments. If only you'd looked around a bit in the beginning... "Quality costs a little more, but it's usually worth paying for" (Personal Computer News – CGLM5 Review, June '83.)

The CGLM5 is designed and built by Sord, one of Japan's leading computer specialists, with three main ideas in mind.

First, to be easy and fun to learn and operate.

Second, to be rugged enough to last through hours and hours of operation.

And third, to form the basis of a powerful, versatile home computer system that won't need replacing until you're ready for a dedicated business system.

#### Built to learn

The CGL M5 is designed to be easy for non-geniuses to use.

"On the M5, most of the work is done for you, and all that is left is the need to work out what to do next, rather than how to do it." (Personal Computer News, June'83.)

If you make a mistake, you can correct it with a simple movement of the cursor. So you only correct that mistake, not a whole line; nor do you have to indulge in complex edit commands.

Budding video game designers and computer artists will love to get their hands on the 16 colour graphics and 32 moveable images called "sprites."

"The M5 makes professional graphic

effects very simple for even the beginner to achieve." (Personal Computer World, Aug. '83.)

#### **Built to last**

"It works first time, doesn't need a lot of mollycoddling and jiggery-pokery to persuade it to continue to do so, and what's even better, it continues to work well. You don't have to balance cold cartons of milk

on the top, shove matches in the back to keep the plugs in, or press the keys with several pounds

force to make them respond." (Personal Computer News, June'83.)

Being able to build things that work and carry on working without endless maintenance is something at which the Japanese seem to excel.

#### Built to grow

To be truly versatile, a home computer has to understand very different things.

So you need different "languages," which the M5 provides by supplying part of its memory in plug-in cartridges.

"The M5 eliminates the worst limitations on machines at this level, which is that they tend to be stuck with whatever language is provided by the management." (Personal

Computer News, June'83.)

CURSOR L The computer is supplied complete with a Basic-I cartridge, a standard integer BASIC language and a simple learning text.

> Plug in the Basic-G cartridge, and you can access the M5's incredibly sophisticated graphic and sound capabilities which are far in advance of similarly-priced computers.

> Move on to the Basic-F cartridge, and you have scientific, technological and statistical computing power usually available only

on big computers with equally big price tags.

The FALC cartridge provides a tailor-made language for data management, spreadsheet accounts and business problems. Combine FALC with a disc and you could "turn the M5 into a small business machine". (Personal Computer Magazine, August '83.)

Now, take a look at the back of the M5.

Notice the sockets (usually an extra) for a standard

Centronics-type printer, the separate video monitor and hi-fi sound output.

Even the language cartridge socket has hidden potential:

"Unlike most such sockets, this one has 56 internal lines connected to it giving access to just about every function in the computer. This means that just about everything you can think of can be added onto the computer, ranging from a Prestel interface to second processor to use as an intelligent terminal on a timesharing computer"... (Electronics – The Maplin Magazine, March'83.)

Take a look at the home computer that will improve with age.

For a full technical specification of the CGL	M5,
details of the wide range of supporting software	e
and to find out where to see a complete	
demonstration, send the coupon to:	
CGL, CGL House, Goldings Hill, Loughton, Esse:	X
IG10 2RR. Telephone number: 01-508 5600.	

I'd like to know more about the CGLM5. Please

Name	
ranc	
Address	
	———— HOME COMPUTE

BUILT TO LEARN. BUILT TO LAST. BUILT TO GROW.



Fancy doing yourself some brain damage? If so, put your hand to some of our puzzles put together by a couple of reprobates from Hull called Lou and Les Falk. They have joined forces to make sure you don't have a moment's peace of mind with these brain teasers.

Mindbenders is a silly serious page which will appear in every issue of *Games Computing* to give you some relaxation from the more physical side of games playing.

There aren't any prizes for working out the correct solutions (well, maybe the odd one or two) but we hope you enjoy doing them anyway. And if you have any brain twisters which are particularly difficult why not send them to us and well see what Lou and Les think of them. You'll notice that some of the puzzles are dead easy, some excruciatingly difficult and some are plain silly.

You'll find the solutions to the puzzles in the following issue — so you'll have to contain yourselves for the answers until then.

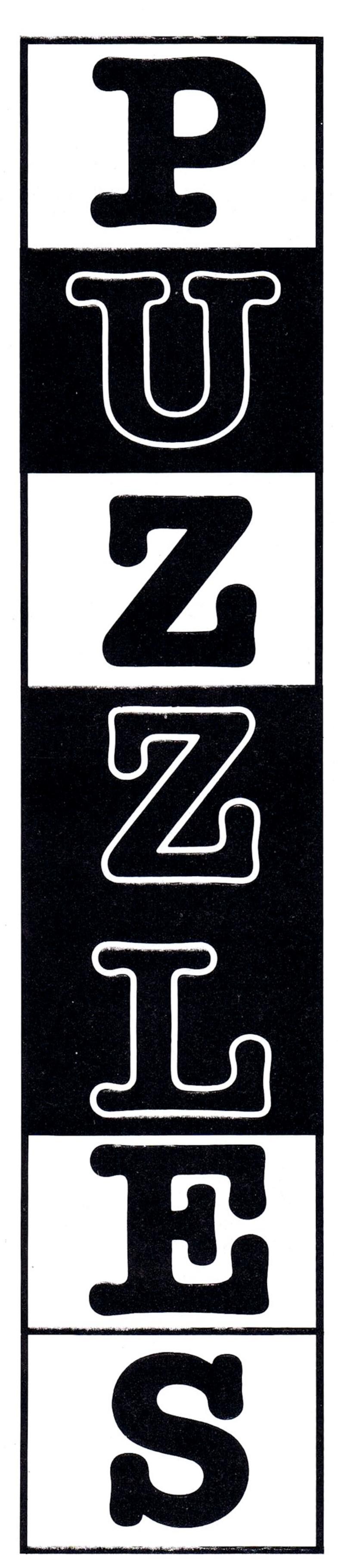
Happy mindbending!

- 'FIVE FINGER EXERCISE'
   What are the next two letters in the following series
  - Z X C V B ....
- Every so often our word processor goes haywire and we lose one letter of the alphabet. Take the following sentence what should it read? ETERIERICKEDAECKOFICKLEDEER 3: 'ALL THE EIGHTS'

Eight eights are sixty four on most calculators. But can you make eight eights equal one thousand?

- Rearrange the letters of the Mac-Pouter, the famous Scottish inventor and you will come up with a computer!
- In the following grid we have hidden the names of some well known computer games reading across or down, backwards, forwards and diagonally. List as many as you can, and put the one you would like to win at the top. The longest list sent in wins the game of your choice. In the event of a tie we will cut up the cassette and send you a piece each!

H C T A C Z F O R T H E L L P T O S P S D R O L R A WO A I A P E P N F O S S E N D A M N E D U E A A G D P M G Y S G B D R Q N M C G S O A M B T I A F A E E C L E L K T A U E N L O G D T A U R I E H N G R E L T O A R P X K F N S F L O G U E N K A Y A N E T V R U I N A N S C T L U N A R L A N D E R A L O O C A R WA R S D S L E L A L R S T P O O L S S E H C P I B R E A K O U T T G K R O L R B K S N A I X A L A G N S E Z R P A R A C H U T E O B S



#### 6: 'CROSSNUMBER'

5	11	9	16	14	8	11	12	16
11	2	16	2	1	2	1'2	2	10
13	2	9	1	19	16	20	2	1
11	5	1	2	6	2	3	13	13
17	2	20	2	2	2	13	2	7
3	10	15	2	14	2	18	11	8
11	2	9	3	4	20	1	2	3
6	2	11	2	11	2	1	2	1
14	7	12	16	20	12	13	11	6

Given that 19 letters of the alphabet are used, and 14 7 9 is the sum, can you complete the following crossword? By the way, the twentieth number represents black squares — look for the pattern.

6-

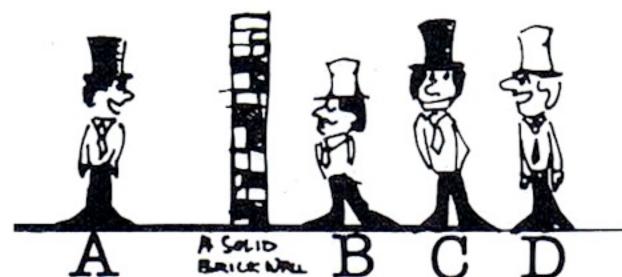
a: Irish Game -



Spot the Cursor!

#### 7: 'LOGIC CHOPPING'

Each month we shall pay a brief visit to the imaginary land of Falkovia. This island is chiefly famous for its cruel and sadistic king and its whimsical legal system. The last time we were there, for instance, four condemned men were awaiting execution. In a sudden fit of clemency the king produced four hats, two black, two white, and put them on the heads of the four men after arranging them, shown in Fig 1.



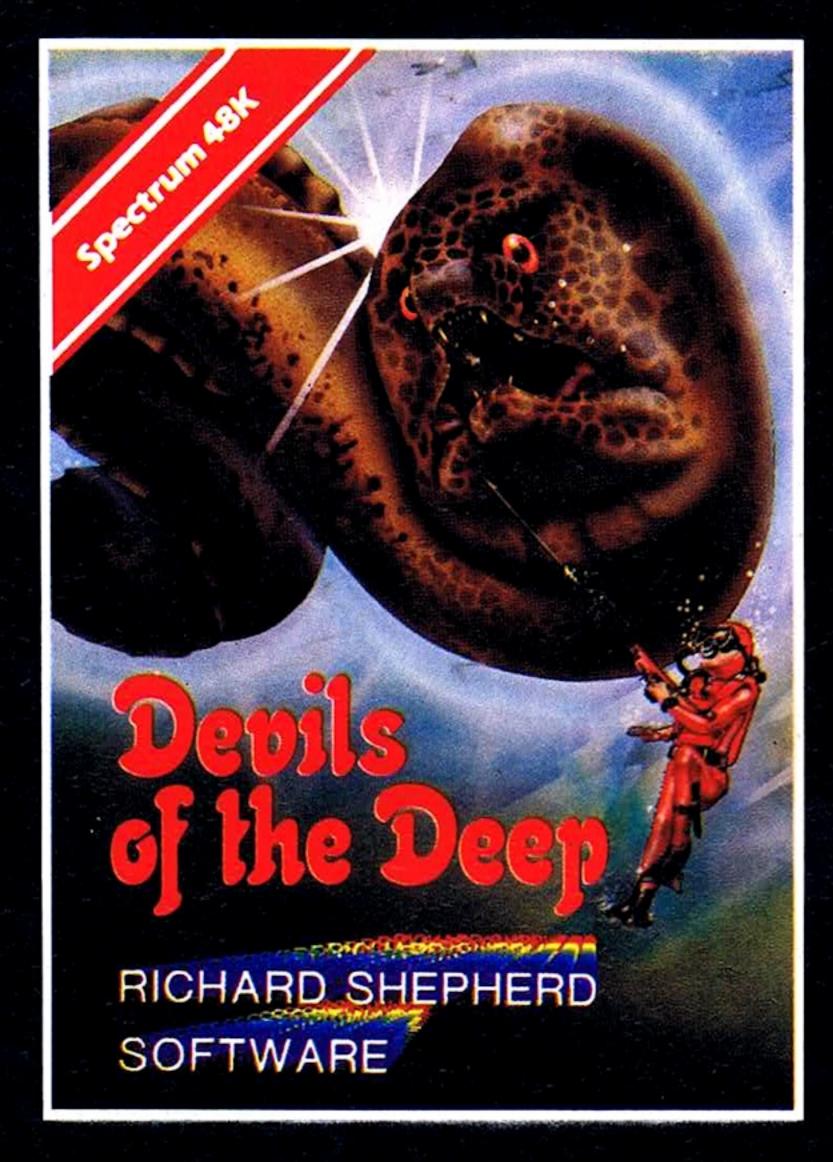
The rules of the game were simple; the first man to deduce the colour of his own hat would be pardoned. There were four provisions though — anyone who looked at his own hat would be fed to the sharks. Anyone who turned round would be cut up and then fed to the sharks. Anyone using mirrors, or even moving would be boiled in Brylcreem! And anyone taking a wild guess would suffer an unnamed fate. The men were informed of all the rules.

What the king didn't mention was that only one of the four stood a chance. If you were one of the condemned men which would you choose to be — A,B,C, or D? And Why?

Next month — we visit an experimental penal institution, and tell you this month's answers.

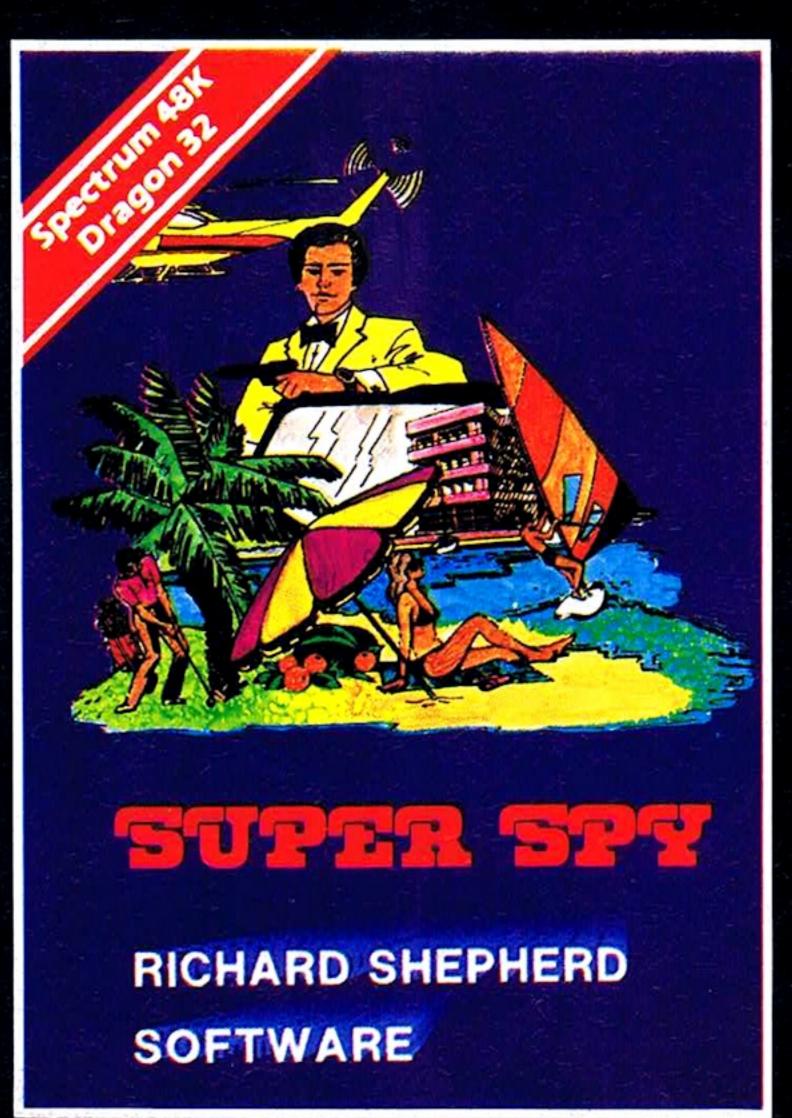


# "ADVENTURES INTO IMAGINATION"



#### Devils of the Deep

Discover the secrets of Atlantis as you wander amongst its ancient columns. Explore the 100 deadly sectors of its treacherous seabed! Beware of giant eels! £6.50



#### Super Spy

Follow the trail of Dr. Death through complex puzzles, coded messages and 3-D mazes until you find his lair! But beware — even with your death-defying gadgets you may not live to tell the tale! £6.50

CREDIT CARD HOTLINE 06286 63531 (24 HOURS)



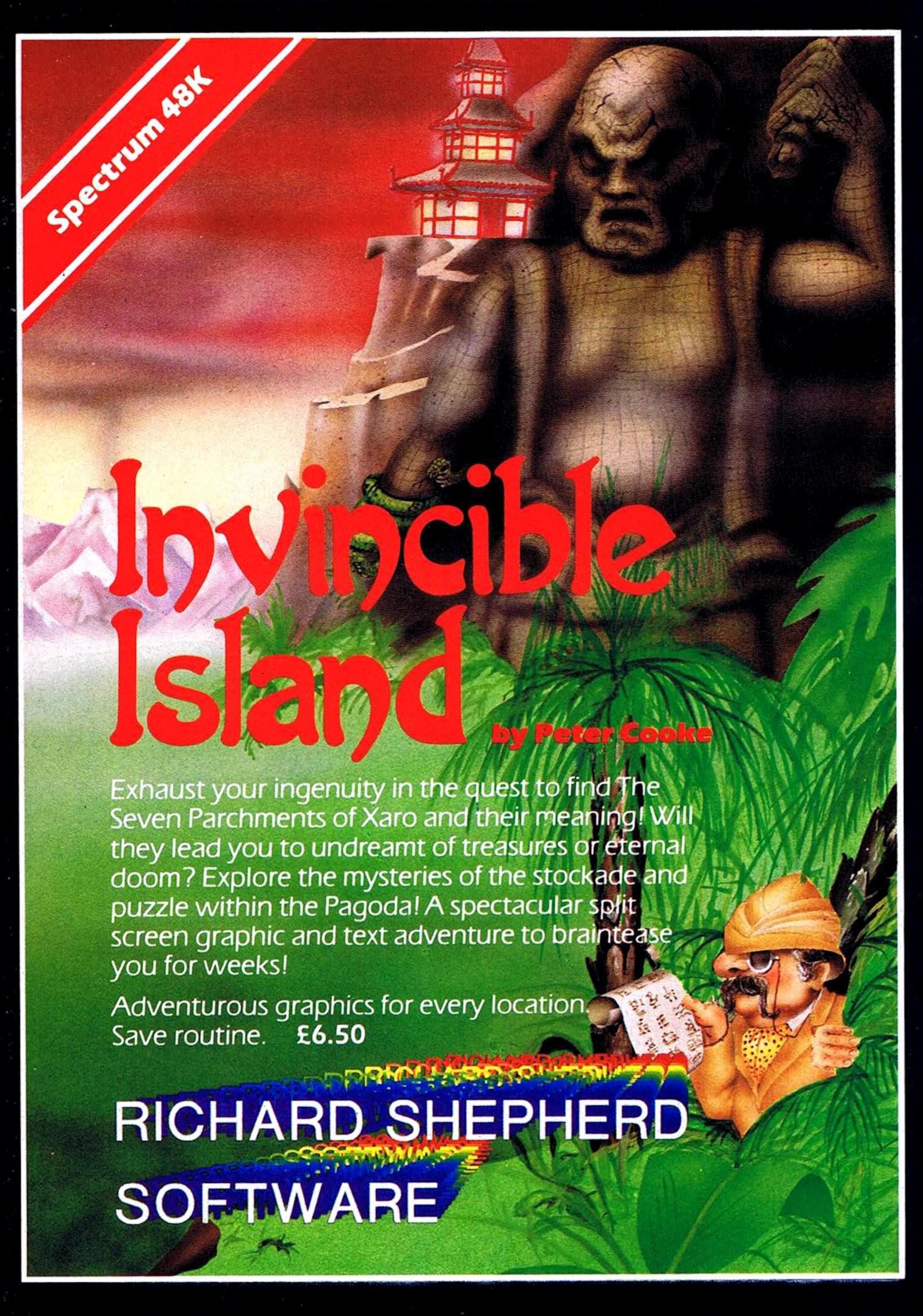
Selected titles available from W. H. SMITH, BOOTS, MENZIES AND ALL LEADING COMPUTER STORES



ELM HOUSE, 23-25 ELMSHOTT LANE, CIPPENHAM, SLOUGH, BERKSHIRE.

## "ADVENTURES INTO IMAGINATION"

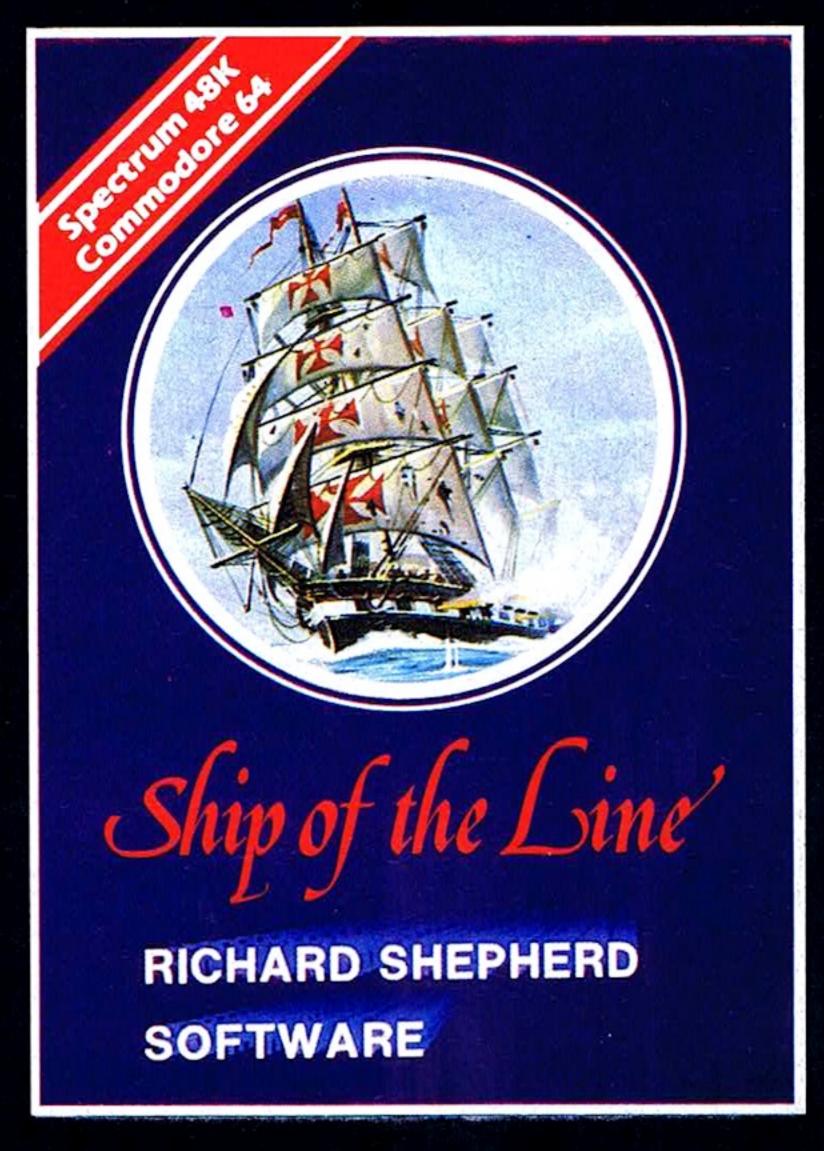
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CREDIT CARD HOTLINE 06286 63531 (24 HOURS)

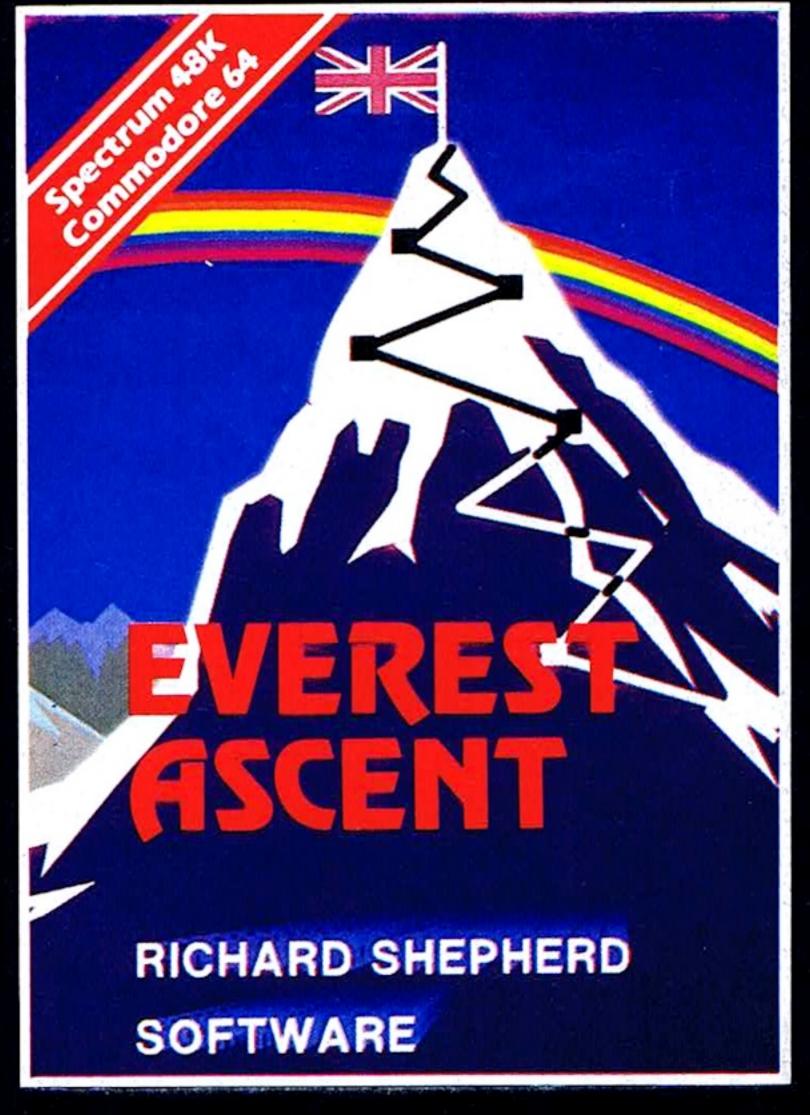


ELM HOUSE, 23-25 ELMSHOTT LANE, CIPPENHAM, SLOUGH, BERKSHIRE.



#### Ship of the Line

Command a sailing ship, juggle your supplies, crew and firepower. Fearlessly battle your way up the admiralty ladder, bribe Sea Lords as necessary until you make First Sea Lord! £6.50



#### Everest Ascent

Conquer the world's highest peak in defiance of all the obstacles, man and nature can throw at you. Survive avalanches, cross bottomless crevasses, cope with wayward Sherpas — but don't run out of supplies! £6.50



Follow the trail of the Holy Grail in this dramatic adventure game which runs on the VIC 20 with 16K.

You are King Arthur and you have been ordered by God to find the Holy Grail and put it into the glass box in the church.

All the commands that are in a usual adventure are contained in the Holy Grail, eg. get, drop, look, examine, inventory, etc. To save time directions can be inputted by **n** for north, **s** for south, **e** for east, **w** for west, **u** for up and **d** for down. Also I can be used for look and i for inventory. When the letter **a** is pressed, the location that you are in will be described. When you are in a location press I to see if there are any objects in that location.

Action

#### RUNdown

Lines

1-8	Sets up various flags and
10.00	counters.
10-90	Sets up title screen.
110-370	Decides which subroutine to
1000 1000	go to.
1000-1660	Prints the decsription of the
	location and sets a new loca-
	tion number into the flags.
1999-1092	The 'go' subroutine.
2300-2420	The 'inventory' subroutine.
2500-2540	The 'row' subroutine.
2600-2690	The 'examine' subroutine.
2700-2710	The 'swim' subroutine.
2800-2900	The 'look' subroutine.
2999-3110	The 'get' subroutine.
3600-3756	The 'drop' subroutine.
3800-3840	The 'pull' subroutine.
4000-4050	The 'remove' subroutine.
4100-4130	The 'unlock' subroutine.
4200-4230	The 'open' subroutine.
4300-4320	The 'read' subroutine.
4400-4476	The 'fight' subroutine.
4500-4590	The 'saw' subroutine.
4600-4620	The 'press' subroutine.
4700-4730	The 'insert' subroutine.
4800-4840	The 'turn' subroutine.
8000-8040	Initialisation.
10000-10056	The splitting up of the
	players input into a verb and
10060 10000	a noun.
10060-10280	Deciding which location to
12000 12050	go to.
12000-12050	The failure routine.

#### **Conversion Clues**

13000-13070 The successful end.

There should be no problem in converting this adventure to run on other computers. People with Spectrums or BBCs need to type:

10060 IF DI = 0 THEN PRINT "I CAN'T GO THAT WAY":DI = SE:GOSUB DI : GOTO 10000

10070 GOSUB DI : GOTO 10000

N.B. The numbers in the data are the notes for the song 'Smile' which are as follows.

Number	Note
209	middle f
215	middle g
219	middle a
207	low e
201	low d
195	low c
221	middle a sharp
212	middle f sharp
225	high c
228	high d
227	high c sharp

POKE 36879 Color control. POKE 36876 Music channel. POKE 36878 Volume control.

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1 Z=0:W=0:R=0:Q=0:I=0:U$="":DI=1000:V=0:Y=0:P=0:T=0:Q=0:L=0:E=0:J=0:N=0:M=0:F=0:
 S=0
 2 H=0:A=0:B=0
 5 POKE36879,25:PRINTCHR$(14)
 6 POKE36878,14
 7 Y$="SLAMMED SHUT":T$="CROSS"
 8 K$="\ CAN SEE A GUARD":F$="\ CAN SEE AN ATTENDANT"
                                                          ■";:PRINT"解認
 10 PRINT"
                                                        ■";
  20 PRINT"續調
 30 PRINT" (2000) 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000
  40 PRINT"NDDDL
  60 PRINT"
 75 PRINT" 🗫 🗎 🗎
  80 PRINT"XXXXXX
                                                                 PRINT" IN 3
 90 PRINT"NA
 91 FORT=1T05000:NEXT
 95 PRINT""
  99 GOSUB8000
  100 GOTO10060:GOTO10000
  105 B=B+1:IFB=5THENPRINT" CAN'T HOLD MY BREATHANY LONGER!....":GOTO12000
  107 PRINT""
 110 IFA$="N"THENDI=NO:GOTO10060
  120 IFA$="S"THENDI=SO:GOTO10060
  130 IFA$="W"THENDI=WE:GOTO10060
  140 IFA$="E"THENDI=EA:GOTO10060
 150 IFA$="U"THENDI=UP:GOTO10060
  160 IFA$="D"THENDI=DO:GOTO10060
  170 IFA$="GO"THENGOT01999
  180 IFA$="ROW"THENGOTO2500
  190 IFA$="EXAMINE"THENGOTO2600
  200 IFA$="SWIM"THENGOTO2700
  210 IFA$="L"THENGOTO2800
  220 IFA$="GET"ORA$="TAKE"THENGOTO2999
  230 IFA$="I"THENGOT02300
  245 IFA$="A"THENGOT010060
  250 IFA$="DROP"THENGOTO3600
  260 IFA$="PULL"THENGOTO3800
  270 IFA$="REMOVE"THENGOTO4000
  280 IFA$="UNLOCK"THENGOTO4100
  290 IFA$="OPEN"THENGOTO4200
  300 IFA$="READ"THENGOTO4300
  310 IFA$="FIGHT"THENGOTO4400
  320 IFA$="SAW"THENGOTO4500
  330 IFA$="PRESS"THENGOTO4600
  340 IFA$="INSERT"THENGOT04700
  350 IFA$="TURN"THENGOTO4800
  360 IFA$="HELP"THENPRINT"/OT ON YOUR NELLIE":GOTO10000
  370 PRINT" DON'T UNDERSTAND YOU" GOTO10000
  1000 PRINT"SA'M IN A CHAPEL., CAN SEE A CROSS. THERE IS AN EXIT TO THE EAST"
  1001 PRINTU$
 1005 SE=1000
 1010 EA=1030:WE=0:S0=0:N0=0:D0=0:UP=0
  1020 RETURN
 1030 PRINT" MAY ON A COBBLED ROAD. SEE A CHAPEL TO THE WEST. THE ROAD CARRIES O
N SOUTH"
  1035 SE=1030
  1040 WE=1000:S0=1060:N0=0:EA=0:UP=0:D0=0
  1050 RETURN
  1060 PRINT"SA'M ON A COBBLED ROAD. THERE IS A MARKET TO THE EAST, A CASTLE TO T
HE WEST."
 1070 PRINT" I HERE IS A FOREST TO THE SOUTH AND A ROAD TO THE NORTH."
  1075 SE=1060
  1080 EA=1100:SO=1220:WE=1130:NO=1030:UP=0:DO=0
  1090 RETURN
  1100 PRINT" AN IN A MARKET SQUARETHERE IS A ROAD TO THEWEST."
  1101 PRINTF$
  1105 SE=1100
  1110 WE=1060:EA=0:NO=0:SO=0:DO=0:UP=0
  1120 RETURN
  1130 PRINT" AN IN AN ENORMOUS HALL. HERE ARE EXITS EAST, WEST AND DOWN."
 1135 SE=1130
  1140 DO=1160:UP=0:SO=0:NO=0:EA=1060:WE=1190
  1150 RETURN
 1160 PRINT" IN A DUNGEON. THEREIS A JAIL CELL HERE. THERE IS AN EXIT
PWARDS."
  1165 SE=1160
  1170 UP=1130:D0=0:S0=0:N0=0:EA=0:WE=0
  1180 RETURN
  1190 PRINT"SA'M IN A STORAGE ROOM. | HERE IS AN EXIT TO THE EAST"
  1195 SE=1190
  1200 EA=1130:WE=0:S0=0:N0=0:UP=0:D0=0
  1210 RETURN
  1220 PRINT"SA'M IN A FOREST. | HERE IS A LAKE TO THE WEST AND A ROAD TO THE
ORTH"
  1225 SE=1220
  1230 EA=0:WE=1280:NO=1060:SO=0:UP=0:DO=0
  1240 RETURN
  1280 PRINT" ON A BANK BY A LAKE. CAN SEE A BOAT. HERE IS AN EXIT TO T
HE EAST."
  1281 B=0:C=0:Z=0:Y=0
  1285 SE=1280
  1290 EA=1220:WE=0:S0=0:N0=0:UP=0:D0=0
  1300 RETURN
  1310 PRINT"™ ON AN ISLAND. ∕ORTH SEE A CASTLE AND EAST SEE A CAVE. C
AN SEE A";
 1311 PRINT" BORT": Z=0:Y=1
  1315 SE=1310
  1320 EA=1340:WE=0:NO=1370:S0=0:UP=0:D0=0
  1330 RETURN
  1340 PRINT" IN A CAVE. THERE ARE EXITS SOUTH, WEST AND DOWN."
1360 RETURN
1370 PRINT"% /M IN A HALL. HERE ARE EXITS EAST, SOUTH AND UP."
1375 SE=1370
1380 SO=1310:NO=0:WE=0:EA=1460:UP=1490:DO=0
1390 RETURN
1400 PRINT"% /M IN A CAVERN. HE EXIT IS NORTH. "
1405 SE=1400
1410 NO=1340:SO=0:WE=0:EA=0:UP=0:DO=0
420 RETURN
430 PRINT"% /M IN A PIT. HE EXIT IS UP."
435 SE=1430
140 UP=1340:DO=0:NO=0:SO=0:EA=0:WE=0
50 RETURN
50 PRINT"% /M IN A POOM
  1345 SE=1340
  1460 PRINT" IN A ROOM. CAN SEE ANIMAL HEADS AND A FIREPLACE. HERE IS A
N EXIT";
 1465 PRINT" WEST."
  1466 SE=1460
  1470 WE=1370:EA=0:NO=0:SO=0:UP=0:DO=0
1480 RETURN
1490 PRINT" N IN A TOWER. CAN SEE THE GRAIL IN A GLASS BOX"
1495 PRINT" I HERE IS AN EXIT DOWNWARDS."
1496 PRINTK$
1497 SE=1490
1500 DO=1370: UP=0: NO=0: SO=0: WE=0: EA=0
1510 RETURN
1520 PRINT" N IN A DARK AND COLDCELL"
1521 PRINTP$
1522 SE=1520
1530 RETURN
1540 PRINT" N IN A FIREPLACE. THERE ARE EXITS UP ANDEAST."
  1480 RETURN
  1545 SE=1540
  1550 EA=1460:UP=1570:D0=0:WE=0:N0=0:S0=0
  1560 RETURN
  1570 PRINT" ON A LEDGE. CAN SEE A PIECE OF BOARD NAILED TO THE STONES."
  1575 PRINT" | HERE IS AN EXIT DOWN"
  1576 SE=1570
  1577 D0=1540:UP=0:EA=0:WE=0:N0=0:S0=0
  1580 GOT010000
  1590 PRINT" IN A PASSAGE. I HEREARE LIT CANDLES ON THEWALL. I HERE ARE EXITS E
AST AND";
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1591 PRINT" WEST"
 1592 SE=1590
1600 EA=1000:WE=1620:NO=0:SO=0:UP=0:DO=0
 1610 RETURN
 1620 PRINT"SAYM IN A ROOM. CAN SEE A GLASS BOX. THERE IS A KEYHOLE IN THE B
 1621 PRINT"THERE IS AN EXIT TO THE EAST"
 1625 SE=1620
 1630 EA=1590:WE=0:NO=0:SO=0:UP=0:DO=0
 1640 GOTO10000
                                   UNDERWATER IN THE LAKE. CAN SEE SEASHELLS A
 1650 PRINT" M SWIMMING
ND";
 1652 PRINT" STARFISH. SEE
                               LAND ABOVE ME" B=1 C=1
 1653 SE=1650
 1655 UP=1280: DO=0: EA=0: WE=0: NO=0: SO=0
 1660 RETURN
 1999 IFB$=""THENPRINT"IO OHERE ?"
 2000 IFB≰="BOAT"ANDDI=1280ANDY=0THENPRINT"< M ON THE BOAT. ∕ORTH \ CAN SEE AN IS
LAND": Z=1
 2001 IFB$="BOAT"ANDDI=1280ANDY=0THENGOT010000
 2005 IFB$="BOAT"ANDY=1THENPRINT".<M ON THE BOAT. OUTH . CAN SEE A BANK" Z=1 GOT
010000
 2010 IFB$="BOAT"ANDDI<>1280THENPRINT", CAN'T SEE A BOAT
                                                            HERE. " : GOTO10000
 2020 IFB$="CELL"ANDDI=1160THENPRINT"|HE DOOR "Y$ DI=1520:GOSUB1520:GOT010000
 2030 IFB$="CELL"ANDDIK>1160THENPRINT"\ CAN'T SEE A CELL
                                                            HERE. " GOTO10000
 2040 IFB$="FIREPLACE"ANDDI=1460ANDW=1THENGOSUB1540:GOTO10000
                                                                  FIREPLACE HERE.
 2050 IFB$="FIREPLACE"ANDDI<>1460THENPRINT"\ CAN'T SEE A
":GOTO100
 2055_IFB$="FIREPLACE"ANDDI=1460ANDW=0THENPRINT" DU CLUMSY IDIOT \ WASBURNT IN T
HE FIRE."
 2056 IFB$="FIREPLACE"ANDDI=1460ANDW=0THENGOT012000
 2060 IFB$="PASSAGE"ANDDI=1000THENGOTO2091
                                                               HERE." GOTO10000
 2070 IFB≰="PASSAGE"ANDDI<>1000THENPRINT"|HERE IS NO PASSAGE
 2080 IFB$="HOLE"ANDL=1ANDDI=1520THENGOSUB1160 GOTO10000
                                  UNDERSTAND YOU." GOTO10000
 2090 PRINT"♥ORRY \ DO NOT
 2091 IFR=1THENGOSUB1590:GOTO100:0
 2092 IFR=0THENPRINT"|HERE IS NO PASSAGE
                                           -HERE":GOTO10000
 2300 IFI=0THENG0T02420
 2305 PRINT", HAVE A ":
 2310 IFK(0)=0THENPRINTD$(0)
 2320 IFK(1)=0THENPRINTD$(1)
  2330 IFK(2)=0THENPRINTD$(2)
 2340 IFK(3)=ØTHENPRINTD$(3)
 2350 IFK(4)=0THENPRINTD$(4)
 2360 IFK(5)=0THENPRINTD$(5)
 2370 IFK(6)=0THENPRINTD$(6)
 2380 IFK(7)=0THENPRINTD$(7)
 2390 IFK(8)=0THENPRINTD$(8)
 2400 IFK(9)=0THENPRINTD$(9)
 2410 GOTO10000
 2420 PRINT", HAVEN'T GOT A THING": GOTO10000
 2500 IFZ=0THENPRINT"\"M NOT IN A BOAT.":GOTO10000
 2510 IFZ=1ANDB$="NORTH"THENGOSUB1310:GOT010000
 2511 IFZ=1ANDB$="SOUTH"THENDI=1280:GOSUB1280:GOTO10000
 2520 IFZ=1ANDB$<>"NORTH"ANDB$<>"SOUTH"THENPRINT", HAVE BEEN ROWING
                                                                        ROWING FO
 2530 IFZ=1ANDB$<>"NORTH"ANDB$<>"SOUTH"THENPRINT"2 HOURS AND A HAVEN'I REACHED 8
 THING"
 2540 IFZ=1ANDB$<>"NORTH"ANDB$<>"SOUTH"THENGOTO10000
 2600 IFB$=""THENPRINT""XAMINE OHAT"
 2610 IFB$="CELL"ANDDI=1160THENPRINT"|HERE IS A SHINING
                                                            OBJECT IN THERE, " GOT
010000
 2620 IFB#="CELL"ANDDIC>1160THENPRINT". CAN'T SEE A CELL
                                                            HERE." GOTO10000
 2630 IFB$="FIREPLACE"ANDDI=1460ANDW=0THENPRINT"IHERE IS A ROARING FIRE IN TH
ERE."
 2640 IFB$="FIREPLACE"ANDDI=1460ANDW=0THENGOT010000
 2650 IFB$="FIREPLACE"ANDDIK>1460THENPRINT", CAN'T SEE A
                                                                 FIREPLACE HERE"
: GOTO10000
                                                             UNBREAKABLE. " GOTO10
 2660 IFB$="GLASS"ANDDI=1490THENPRINT"|HIS GLASS IS
999
 2670 IFB$="GLASS"ANDDI<>1490THENPRINT" CAN'T SEE ANY GLASS. " GOTO10000
 2680 PRINT", HAVE EXAMINED THE": PRINTB$: PRINT" VERY CAREFULLY AND . DID NOT NOT
ICE"
 2681 PRINT"ANYTHING SPECIAL"
 2690 GOT010000
 2700 IFDI=1280THENDI=1650:GOSUB1650:GOTO10000
 2710 PRINT"DON'T BE DAFT - CAN'T SWIM ON LAND" GOTO10000
 2800 IFDI=K(1)THENPRINT", CAN SEE A "D$(1)
 2810 IFDI=K(2)THENPRINT" CAN SEE A "D$(2)
 2820 IFDI=K(3)THENPRINT" CAN SEE A "D$(3)
 2830 IFDI=K(4)THENPRINT" CAN SEE A "D$(4)
 2840 IFDI=K(5)THENPRINT", CAN SEE A "D$(5)
 2850 IFDI=K(6)THENPRINT" CAN SEE A "D$(6)
 2860 IFDI=K(7)THENPRINT"\ CAN SEE A "D$(7)
 2870 IFDI=K(8)THENPRINT", CAN SEE A":PRINTD$(8)
 2880 IFDI=K(9)THENPRINT"\ CAN SEE A "D$(9)
 2890 IFDI=K(0)THENPRINT", CAN SEE A "D$(0)
 2900 PRINT", CAN'T SEE ANYTHING ELSE" GOTO10000
 2999 IFID=3THENPRINT" CAN'T CARRY ANY MORE" GOTO10000
 3000 IFB$=D$(0)ANDDI=K(0)THENK(0)=0:I=I+1:GOTO3110
 3005 IFB$=D$(2)ANDDI=1100ANDV=0THENPRINT"IHE ATTENDANT STOPS ME" GUT010000
 3010 IFB$=D$(1)ANDDI=K(1)THENK(1)=0:I=I+1:GOTO3110
 3020 IFB$=D$(2)ANDDI=K(2)ANDV=1THENK(2)=0:I=I+1:GOTO3110
 3030 IFB$=D$(3)ANDDI=K(3)THENK(3)=0:I=I+1:GOTO3110
 3040 IFB$=D$(4)ANDDI=K(4)THENK(4)=0:I=I+1:GOTO3110
3050 IFB$=D$(5)ANDQ=1ANDDI=K(5)THENK(5)=0:I=I+1.GOTO3110
 3060 IFB$=D$(6)ANDDI=K(6)ANDF=1THENK(6)=0:I=I+1:GOTO3110
 3070 IFB$=D$(7)ANDDI=K(7)THENK(7)=0:I=I+1:GOTO3110
 3080 IFB$=D$(8)ANDDI=K(8)THENK(8)=0:I=I+1:60T03110
 3090 IFB$=D$(9)ANDDI=K(9)THENK(9)=0:I=I+1:GOTO3110
 3100 PRINT", CANYT DO THAT!" GOTO10000
 3110 PRINT"OK.. " GOTO10000
 3600 IFB$=""THENPRINT"DROP WHAT ?":GOTO10000
 3610 IFB\pm D \pm (0)THENK(0) \pm DI \cdot I = I - 1 \cdot G0T03750
 3620 IFB$=D$(1)THENK(1)=DI:I=I-1 GOT03750
 3630 IFB$=B$(2)THENK(2)=DI I=I-1 G0103750
 3640 IFB$=D$(3)THENK(3)=DI:I=I-1:G0T03750
 3650 IFB$=D$(4)THENK(4)=DI:I=I-1:GOTO3750
 3660 IFB$=D$(5)ANDQ=1THENK(5)=DI:I=I-1:G0T03750
 3670 IFB$=D$(6)THENK(6)=DI:I=I-1:GOT03750
 3680 IFB$=D$(7)THENK(7)=DI:I=I-1:G0T03750
 3690 IFB$=D$(8)THENK(8)=DI:I=I-1:U=0:G0T03750
 3700 IFB$=D$(9)THENK(9)=DI:I=I-1:GOT03754
 3710 PRINT"\ HAVEN'T GOT A "B$ GOT010000
 3750 PRINT"OK..":60T010000
 3754 IFDI<>1100THENG0T03750
 3755 PRINT"THE ATTENDANT GRABS THE "D$(9)" AND RUNS OFF " V=1 D$(3)=" k(9)=1
 30T03756
 3756 F$="":GOT010000
 3800 IFB$=""THENPRINT"PULL WHAT":GOTO10000
 3810 IFB$=T$ANDDI=1000THENGOT03830
 3820 PRINT", CAN'T PULL A "B$: GOTO10000
 3830 PRINT", HAD TO PULL IT HARD BUT IT DID MOVE"
 3840 U$="\ CAN SEE A PASSAGE":R=1:GOSUB1000 GOTO10000
 4000 IFB$=""THENPRINTA$" WHAT ?":GOT010000
 4010 IFB$="HEADS"ANDDI=1460THENPRINT"OK..": W=1 GOT010000
 4015 IFB$="NAILS"ANDK(2)=0THENPRINT"OK..":S=1:GOTO4050
 4020 IFB$="NAILS"ANDK(2)<>0THENPRINT"\ CAN'T DO THAT YET":GOT010000
  4030 PRINT", CAN'T "A$" A "B$:GOTO10000
 4050 PRINT"S CAN SEE A HOLE.SN THE HOLE IS A BUTTON" GOTO10000
  4100 IFB$=""THENPRINTA$ "WHAT ?":GOTO10000
  4110 IFB$="CHEST"ANDK(7)=0ANDK(0)=0THENPRINT"CLICK.": T=1:GOTO10000
 4115 IFB$="CHEST"THENPRINT", CAN'T DO THAT YET" GOTO10000
 4120 IFB$="GLASS BOX"ANDK(7)=0THENPRINT"CLICK!!":F=1:GOT010000
 4130 PRINT", CAN'T "A$" A "B$:GOTO10000
  4200 IFB$=""THENPRINTA$" WHAT ?":GOTO10000
  4210 IFB$="CHEST"ANDT=1ANDK(0)=0THENPRINT", CAN SEE A "D$(5):K(5)=D1 Q=1:G0:010
 000
  4220 IFB$="CHEST"THENPRINT", CAN'T IT'S LOCKED":GOTO10000
  4225 IFB$="GLASS BOX"ANDE=1ANDDI=1490ANDJ=1THENPRINT"OK..":F=1:GOTU10000
  4226 IFB$="GLASS BOX"ANDDI=1490ANDJ=0THENPRINT"THE GUARD THROWS ME BACK" GOTO
 10000
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4227 IFB\$="GLASS BOX"ANDE=@ANDDI=149@THENPRINT"\ CAN'T DO THAT YET GUTG18888

4228 IFB\$="GLASS BOX"ANDN=ØTHENPRINT", CAN'T DO THAT YET" GOTO: 9000

4229 IFB\$="GLASS BOX"ANDDI=1620ANDN=1THENPRINT"OK.. ": M=1:GOTO10000 4230 PRINT"\ CAN'T OPEN A ":PRINTB\$:GOTO10000 4300 IFB\$=""THENPRINTA\$" WHAT ?":GOTO10000 4310 IFB\$="BOOK"ANDQ=1ANDK(5)=0THENPRINT".T SAYS TURN KEY LEFT THEN RIGHT!!":GO T010000 4315 IFB\$="BOOK"ANDQ=@THENPRINT"> DON'T HAVE A BOOK":GOTO10000 4320 PRINT"\ CAN'T "A\$" A "B\$:GOTO10000 4400 IFB\$=""THENPRINT"> CAN'T FIGHT MYSELF":GOTO10000 4405 IFB\$="ATTENDANT"ANDDI<>1100THENPRINT"> CAN'T SEE HIM HERE":GOTO10000 4410 IFB\$="ATTENDANT"ANDK(9)=1THENPRINT", CAN'T SEE HIM":GOTO10000 4420 IFB\$="ATTENDANT"ANDK(3)=0ANDDI=1100THENPRINT"√ WAS GOOD BUT HE WAS BETTER. IE SLIT" 4430 IFB\$="ATTENDANT"ANDK(9)=0ANDDI=1100THENPRINT"MY THROAT":GOTO12000 4440 IFB\$="ATTENDANT"ANDDI=1100THENPRINT", HAVE NO SWORD., SEE BLOOD SQUIRT" 4445 IFB\$="ATTENDANT"ANDDI=1100THENPRINT"EVERYWHERE" 4449 IFB\$="ATTENDANT"ANDDI=1100THENPRINT" SEEMED TO HAVE BEEN STABBED":GOTO120 99 4450 IFB\$="GUARD"ANDJ=1THENPRINT"HE IS ALREADY DEAD":GOTO10000 4451 IFB\$="GUARD"ANDK(3)=0ANDK(4)=0ANDK(8)=0ANDDI=1490THENGOTO4470 4452 IFB\$="GUARD"ANDK(3)<>0ANDK(4)=0ANDK(8)=0ANDDI=1490THENGOT04475 4453 IFB\$="GUARD"ANDK(3)=0ANDK(4)<>0ANDK(8)=0ANDDI=1490THENGOT04475 4454 IFB\$="GUARD"ANDK(3)=0ANDK(4)=0ANDK(8)<>0ANDDI=1490THENGOT04475 4455 IFB\$="GUARD"ANDK(3)=0ANDK(4)<>0ANDK(8)<>0ANDDI=1490THENGOT04475 4456 IFB\$="GUARD"ANDK(3)<>ØANDK(4)=ØANDK(8)<>ØANDDI=149ØTHENGOTO4475 4457 IFB\$="GUARD"ANDK(3)<>0ANDK(4)<>0ANDK(8)=0ANDDI=1490THENGOT04475 4459 IFB\$="GUARD"ANDDI<>1490THENPRINT", CAN'T SEE HIM HERE":GOTO10000 4460 PRINT" DO NOT UNDERSTAND YOU": GOTO10000 4470 PRINT", WON!!THE GUARD LIES DEAD ON THE FLOOR":J=1:K\$="":GOTO10000 4475 PRINT", WALKED UP TO HIM AND STARTED TO FIGHT. FOOPS , MADE A MISTAKE" 4476 PRINT" TAND HE CUT MY HEAD OFF ": GOTO12000 4500 IFB\$=""THENPRINTA\$" WHAT ?":GOTO10000 4510 IFB\$="BARS"ANDK(1)=0ANDDI=1520THENPRINT"OK .. 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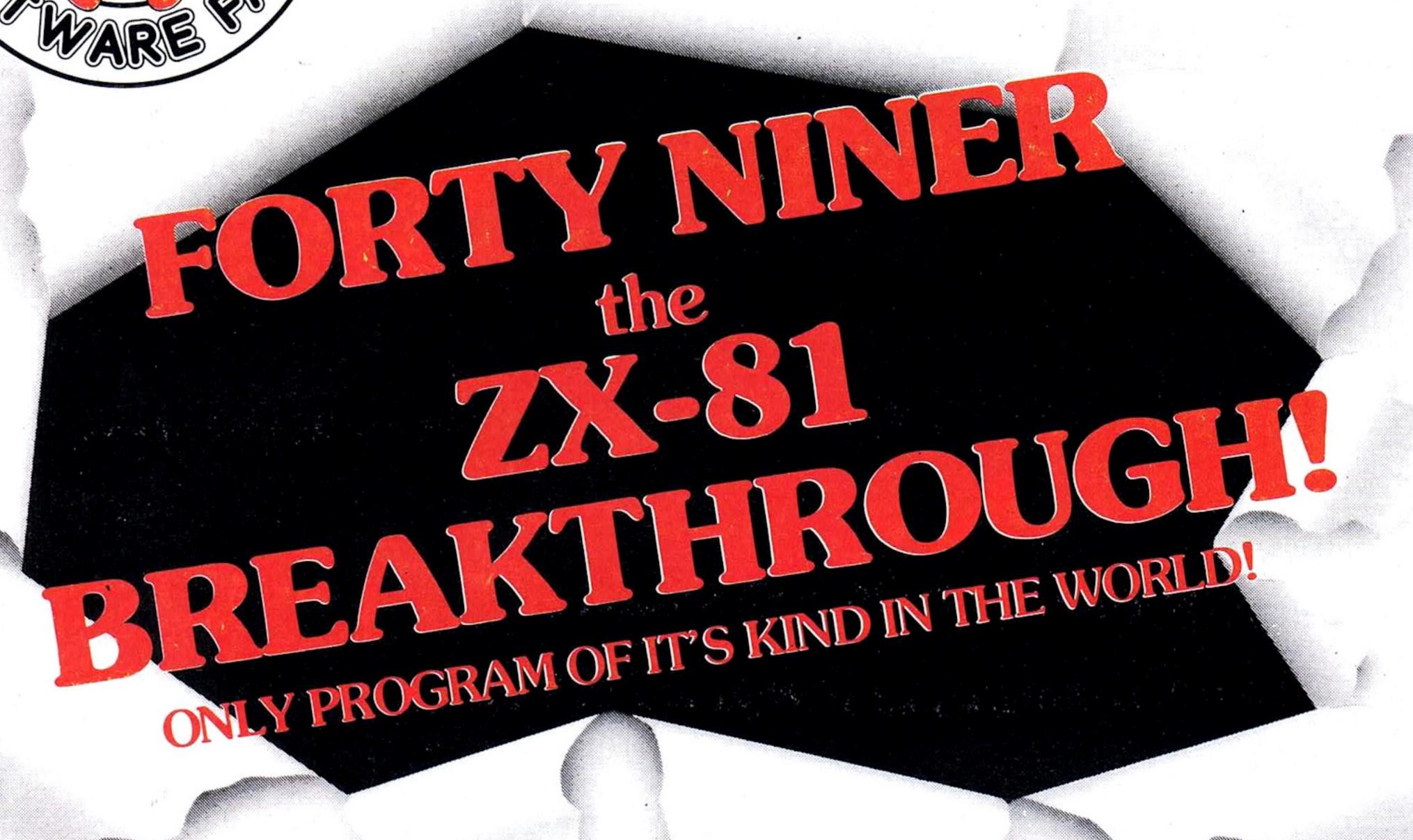
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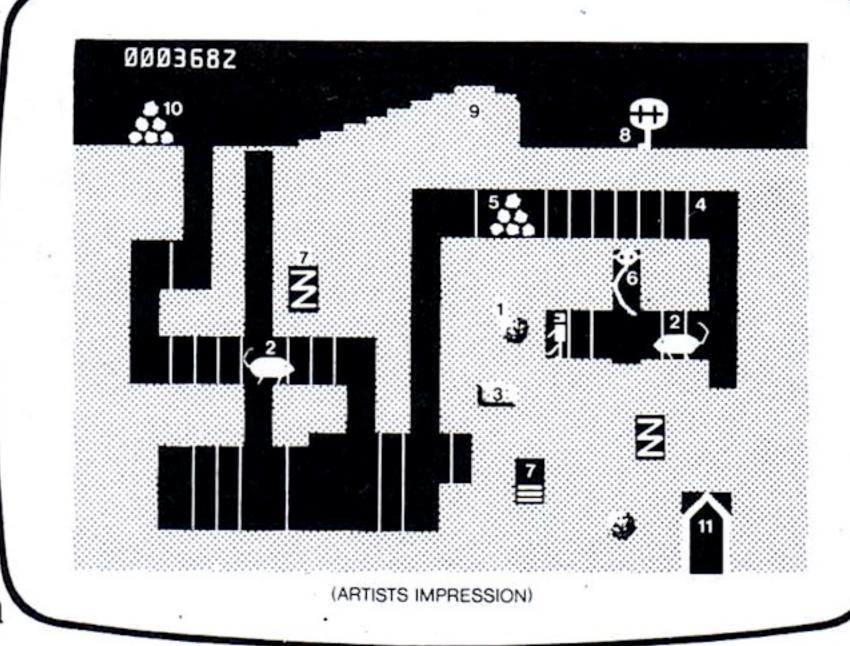


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for a while by knocking down a support (4) which causes a small cave-in (5) to block their way, but you can only destroy them by releasing a SCREEN DISPLA

escape!! – so you must stop it getting there by returning to the surface to replenish the main mound (9) with the smaller pile of earth which appears on the surface as you dig (10). The deeper you dig the more points you score –

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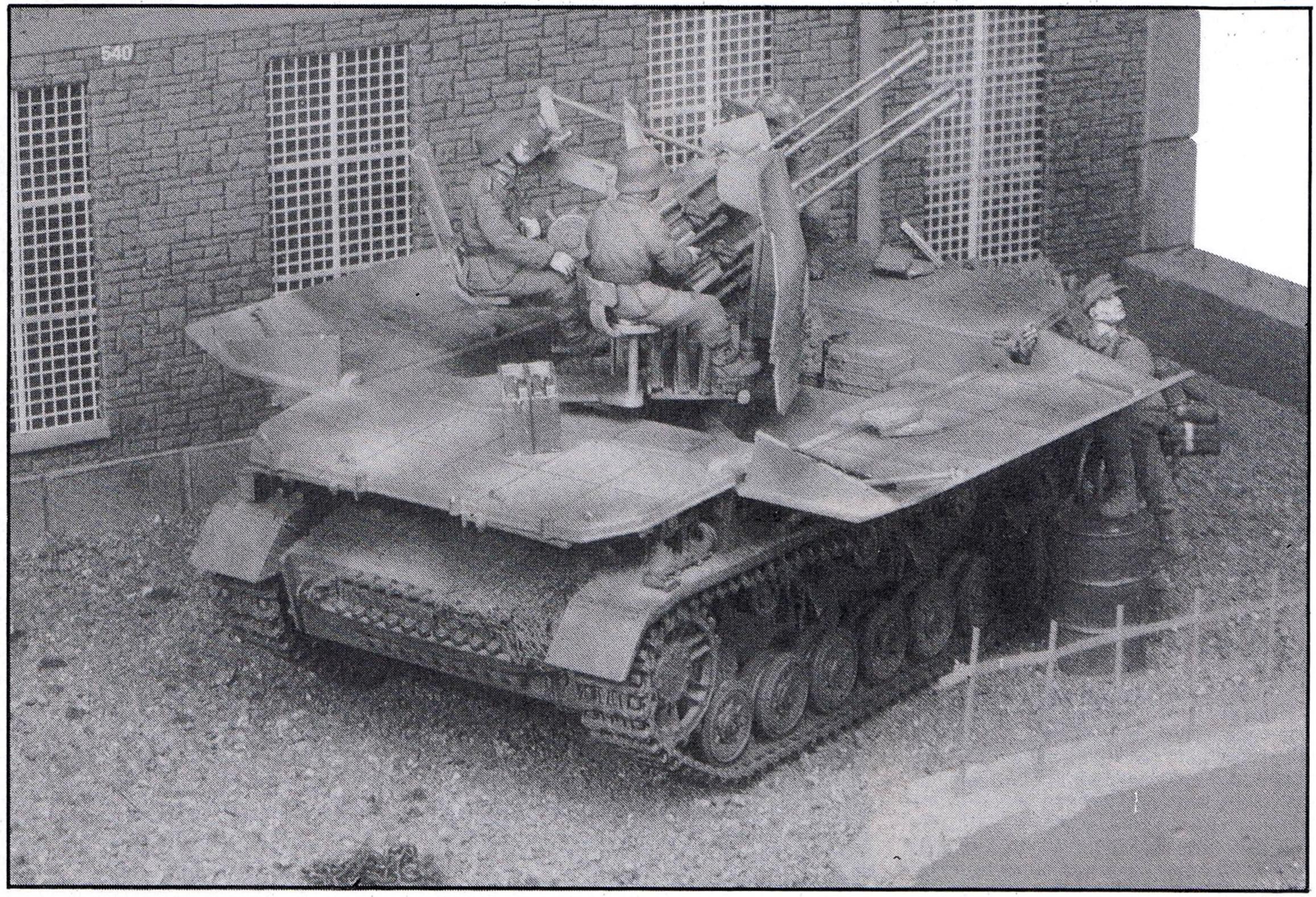
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# WARGAMING



# From Rome to RAM

War has been a human pursuit since the time when one tribe took exception to habits of their neighbours, and decided to educate them by wiping them out!

As human societies developed cities and nations they discovered new reasons to attack their neighbours, new ways of killing them, and new ways of protecting themselves from death and destruction. No longer was it a matter of individuals fighting against other individuals, war became a subject for massed forces. Slowly came the realisation that if a bit of thought was applied to warfare then it was possible to beat the enemy by outmanoeuvring them rather than by meeting them head on. The science of strategy and the art of tactics were born.

#### In the beginning

With the scientific abstraction of warfare came the inevitable translation into a game. In India Chess became the teaching tool for aristocratic warlords, while in China and Japan the emphasis was placed on territorial games such as Go. In the West there is no doubt that the Egyptian, Greek and Roman Empires had various wargames, but these were lost in

the Barbarian invasions of the fifth century. Chess, carried from India to the Eastern Roman Empire, became the wargame of the West.

Nothing much happened in wargaming for many centuries, Chess continued to be the mainstay of strategic teaching despite the changing nature of warfare. But wth the Renaissance came the great leap forward: toy soldiers.

At first they were just toys and owned by the children of the rich in ones or twos — a sort of boy's doll. But children of the very rich began to realise that if they had large numbers of these toy soldiers they could play out the battles that their parents were fighting for real. The soldiers got smaller and the toy armies got larger. Teachers began to see the educational possibilities for young princes and toy armies became common in the nurseries of Europe. The young Frederick the Great is said to have had an army of over 2,000 figures, while Louis XIV of France had his army made out of solid silver.

In the late 18th century rules began to be written to cover various forms of wargames. Helwig, the Master of Pages to the Duke of Brunswick, introduced the concept that one figure could represent not one man but a unit. And in the early 19th century the Von Reisswitzes (father and son) brought in the use of dice to give a controlled random element in wargames. They also invented the Kriegspiel in which each side has only limited information about the enemy — a technique that is used in military wargaming to this day (the old game of Battleships is a very basic form of Kriegspiel).

In 1880 Lieutenant Charles Totten of the US army published a game Strategies, which was a cross between Chess and the *Kriegspiel*. All the elements of modern wargaming were now developed.

#### Books to borrow or buy

However, to date all wargames had been used primarily as teaching tools. Even Strategos was 'for the education of civilians in the principles of modern warfare'. In 1913 the father of modern wargaming (with the emphasis on gaming) published his most important book on the subject entitled 'Little Wars'. The author was the famous Herbert George Wells. who also wrote such lesser works as 'War of the Worlds' and the 'Time Machine'.

In 'Little Wars' H. G. Wells set out rules





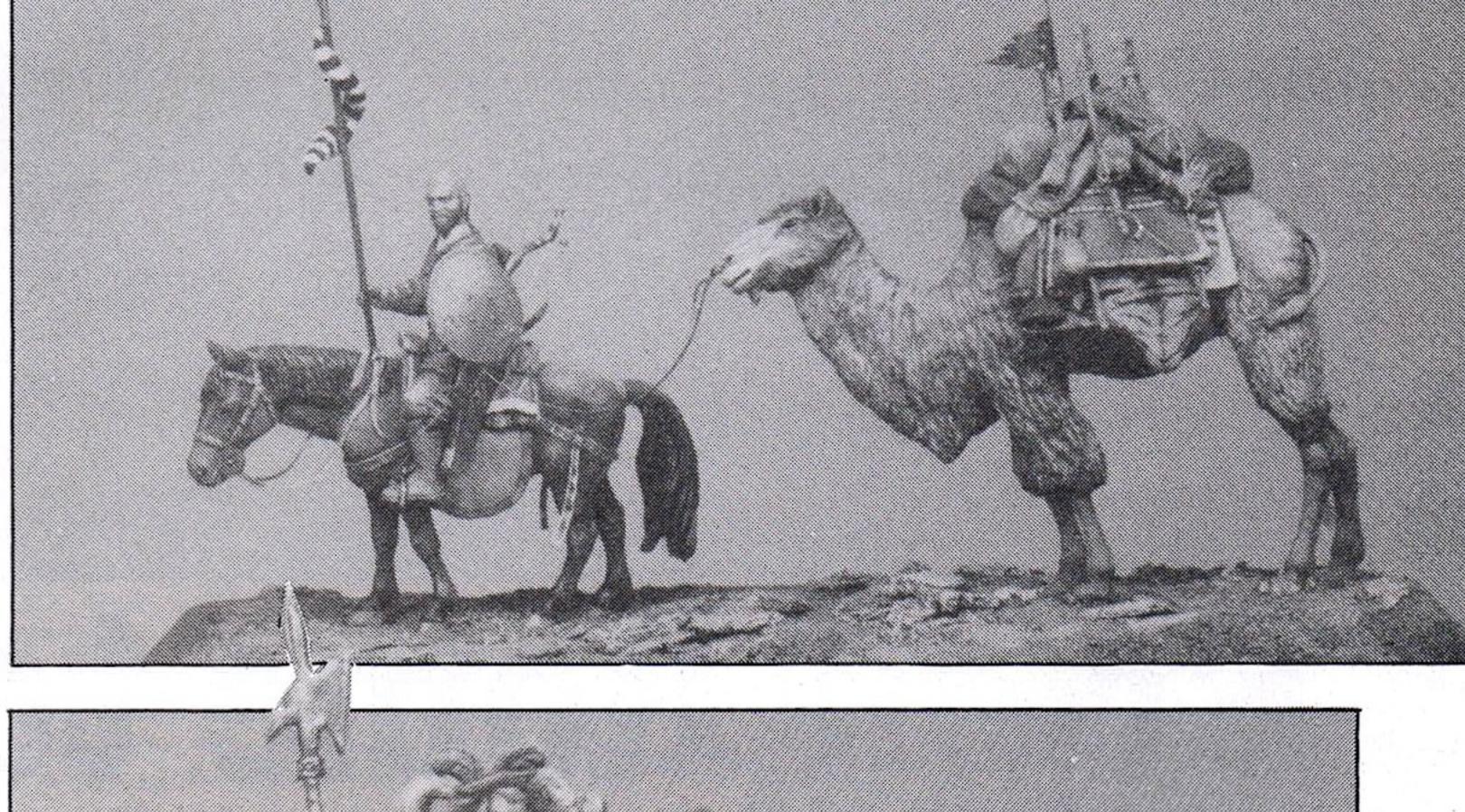
for the playing of battles using Britain's miniature soldiers. The movement was very basic, melees were settled by simple numerical superiority, and gunfire results were produced by using guns that fired wooden pellets! The less informed of the general public think that this is how wargames are still played. They're not.

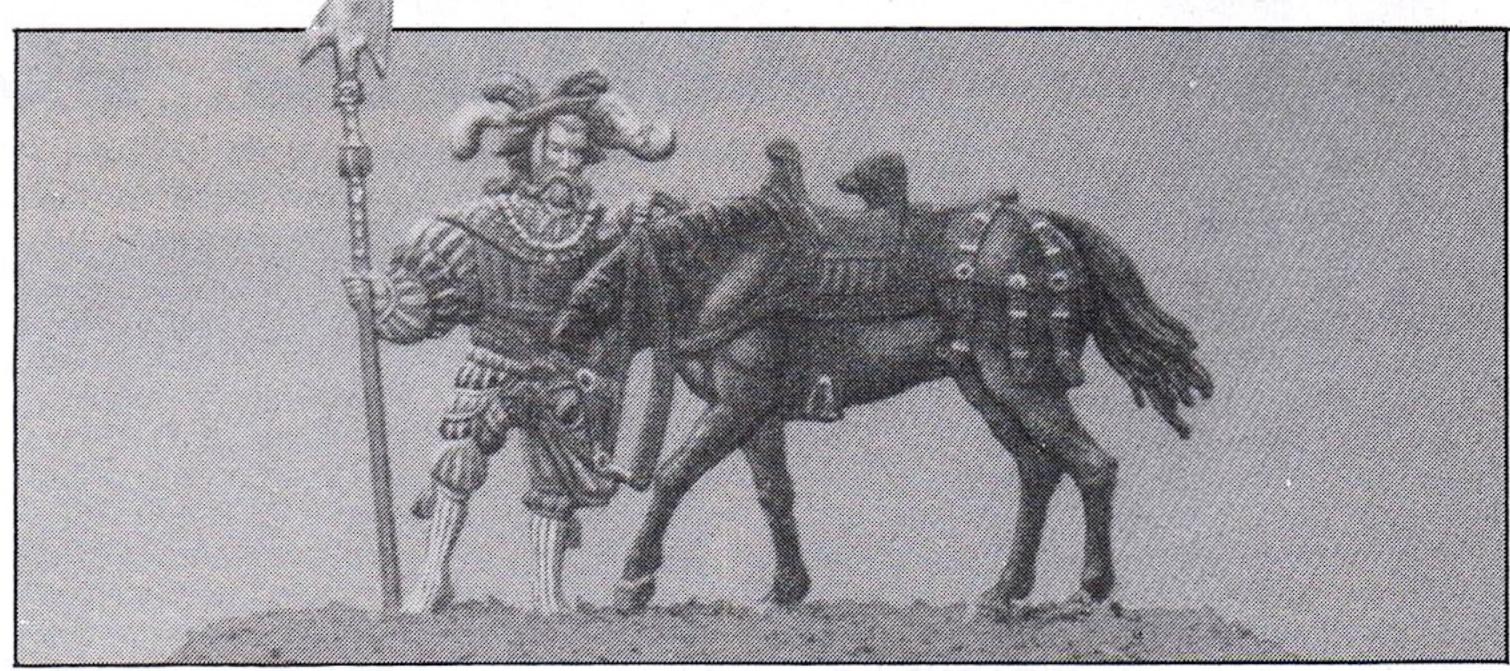
But a year later the 'War to end all wars' was fought. While it proved completely unsuccessful in ending all wars it did end nearly all wargaming for thirty years. In the horrendous slaughter of World War I people had seen generals use their troops as if they were just toy soldiers — 'knock over 1,000 today, they can be replaced by another thousand tomorrow'. This callous attitude led to an abhorrence of all things military, whether upon the battlefield or on the playing board.

The Second World War ended this situation. It was a crusade of democracy against Facism; it proved that ignoring military problems did not make them go away; and most importantly it was a total victory — this war was won so all wars were winnable, the ultimate vindication.

After the Second World War wargaming went through a massive growth period, notably from the early '60s onwards. Figure wargaming continued to be an important part of the hobby, but it was gradually overtaken by board wargaming. Modern board wargames began with the invention and sale of *Tactics* by Charles S. Roberts in 1953. He founded a company called Avalon Hill, which is still a Great Power in the wargaming world today.

Another major wargames producer was Simulations Publications Inc (SPI), now unfortunately defunct. They produced a monthly magazine which included a wargame in every issue, as well as a regular output of standard wargames. Unfortunately, they over-reached themselves by producing a series of monster games (5' by 5' boards, 10,000 playing pieces, 100 hours to play) which cost the earth to make and didn't sell. They were subsequently taken over by TSR (Tactical Studies Rules) which had come up through another line of wargaming.





TSR was formed to publish wargames rules for fantasy miniatures. As a sideline they invested a game called Dungeons and Dragons, a role playing game where players could take on the role of an adventurer in a fantasy world. This genius idea earned millions for the inventors, and D&D (as it's known) is still a very popular game — it is the base from which most computer adventure games evolved.

#### The Modern Wargame

So where do computer wargames fit into all this? Well, computer wargaming is still very much in its infancy. Some games

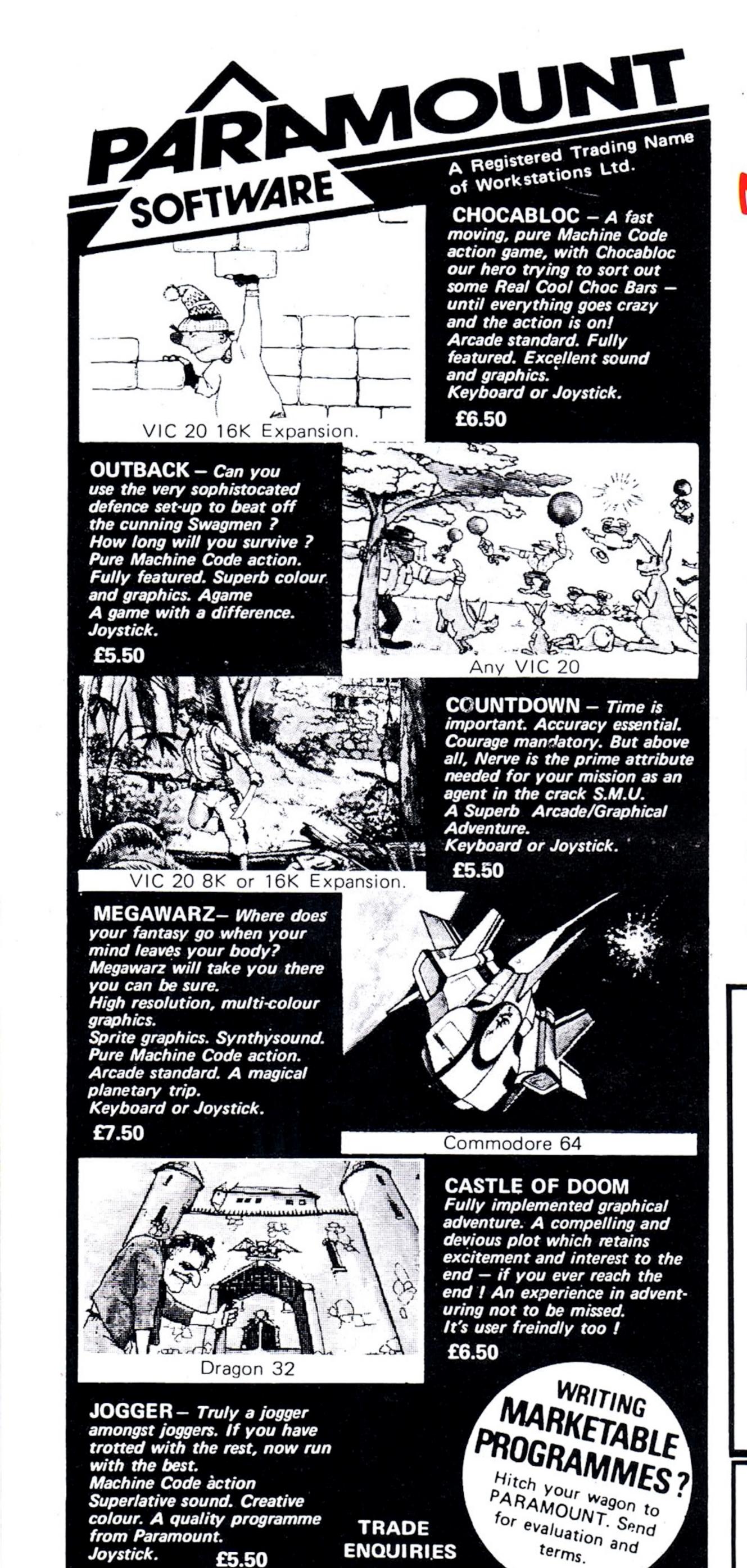
have been produced, but few can be called classics yet. One problem is, believe it or not, the amount of storage space available in modern home computers. 16K is not sufficient, 32K will just about do, but the really challenging games are going to require 64K of memory or more. Only recently have machines of this size begun to appear, but by next year they should be common. Then wargaming on computers will really take off.

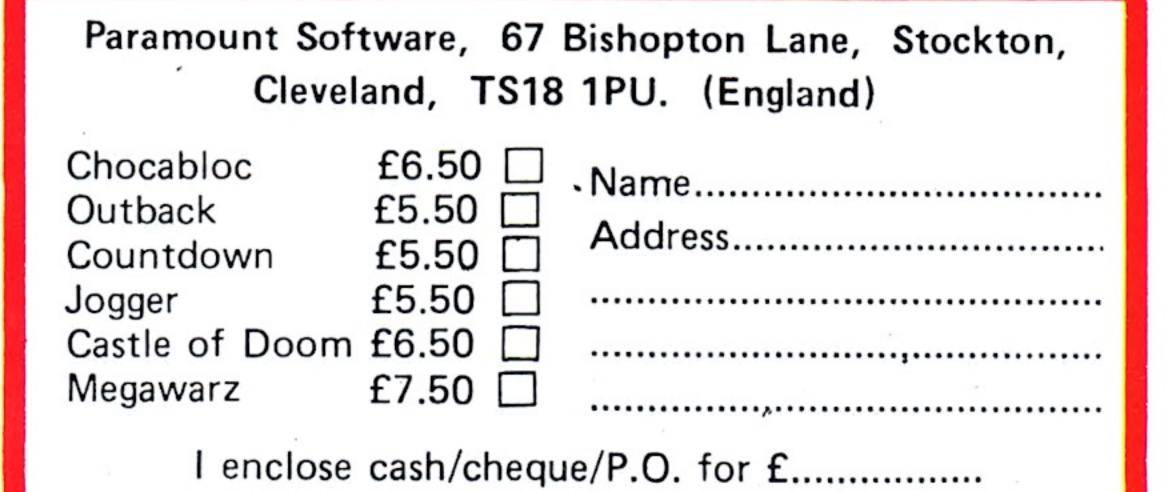
In next month's edition of Games Computing 'ROME to RAM' will take you through the intial steps involved in programming wargames on your home micro computer. Ask your newsagent to reserve a copy for you.



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#### FROGGER **ATARI VCS**

Persuading your friendly frog to cross a road and then a river is no easy task when you have to dodge trucks, cars, vans, and leap on to logs, lily pads and drift wood.

The idea is to move the frog which you control from the pavement to the home bays on the opposite side of the river bank, with another strip of pavement in between acting as a stepping stone on your journey.

Making matters more traumatic you have only 30 seconds in which to get your frog to the safety of the home bays.

Using the joystick controllers to operate the game you must try and guide your frog through the perilous lanes of traffic dodging the cars and trucks. When you first pick up the joystick you're bound to think that 'this is a doddle', but a few minutes later and you'll be cursing this marvellously simple, yet so tricky game! For somehow, the traffic seems to pick up speed just when you think it's safe to cross the road, and then you find your frog 'splooched' into a green mess on the road surface. And believe it or not, that's the easiest part of the game to play.

If you make it safely to the opposite pavement it's even tougher to survive. You have to use good timing and quick thinking to leap on to the alligators, diving turtles and logs. Watch out for the blue turtles because they are the divers and unless you hop on and off them very quickly you'll find your frog will be treading water — and not very successfully. Three frogs splooched and that't it, the game's over.

This game is deceptively difficult to play. Often you think you have only just cleared a car or a lorry only to find you have caught the edge of it and so die. There are many features in Frogger which make it an extremely challenging and interesting game to play that is almost bound to keep you tied to the telly until you have mastered the Frogger technique.

Full marks must go to Parker for producing such a comprehensive game which sticks very closely to the original arcade games yet compiles with the constraints of the memory limitations which the Atari VCS dictates.

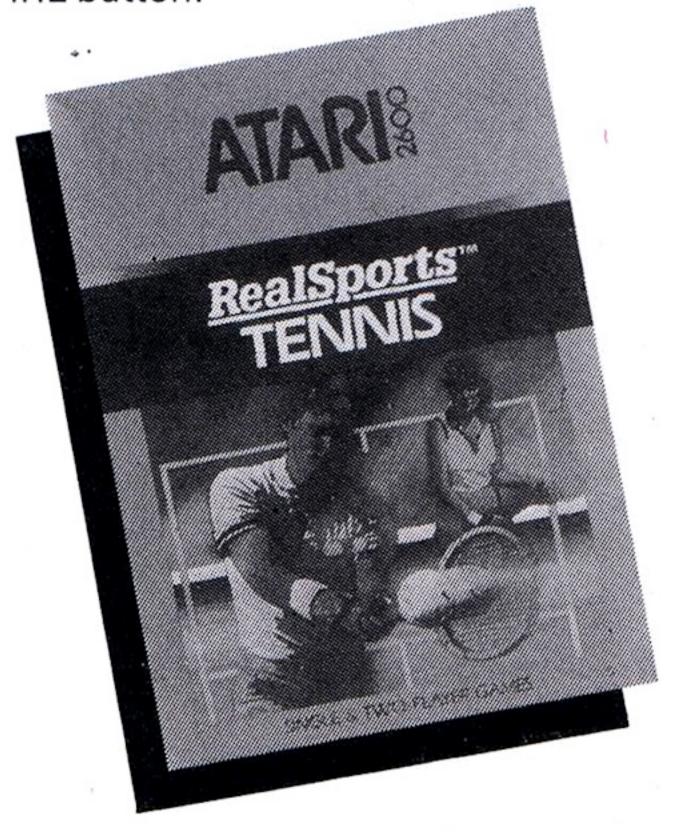
Made by Parker Video Price: £29.95

## **ATARI VCS**

You won't get tennis elbow when you plug into this Real Sport VCS game but are more likely to be struck down with a severe case of joystick jitters.

One of the first games to be put onto computer/VCS systems was the bat and ball type of game. Atari's TENNIS cartridge is an extension of the original idea but has been vastly improved to get the most out of the concept. And it has done so admirably. What you see on screen is a perspective view of a tennis court, minus all the court lines for the tram and service areas. At the top of the screen is a score board recording the games (as they are played and who wins each), the set being played and the score of each game. At either end of the court is a tennis player (just as well), one wearing a pink shirt, the other sporting blue.

It is possible to play against the computer, but it's far more fun to rope a friend into being your opponent and battling it out on the court. We found that the best tactic to adopt was to place the body of your player in front of the ball as it is being played to you, rather than lining up the player's tennis raquet in order to hit the ball directly. To hit the ball you use the FIRE button.



At first you can try the slow speed to develop your tennis technique and once mastered there'll be no stopping you on the fast speed games. Even if your forte is space arcade style games I am positive

this game will enthrall you into playing it with the relentless verve that you normally associate with arcade game players.

Programming wise the quality is very good. Once again the Atari devoted programmers have used all their cunning and expertise to produce a game of fast action and good graphics, right down to the shadow of the ball as it is in play and appropriate sound to boot. And when the two players move up to the net the action is scorching hot and almost as good as watching the top notch players at Wimbledon! On sale from standard Atari retail outlets.

Made by Atari Price: £19.99

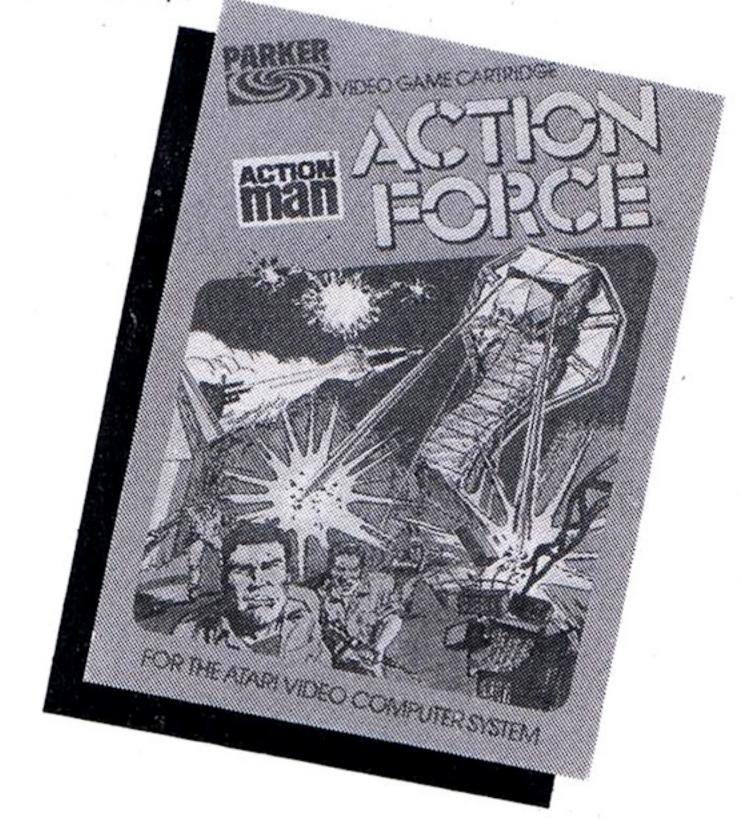
#### **ACTION FORCE ATARI VCS**

Action stations all action force followers....

Here's a video game just for you. The evil minded Baron Ironblood is bent on destroying Action Force in a bid to rule the world. You must stop him from doing so and save the world from a pending

reign of terror and oppression.

Baron Ironblood has devised a super weapon system taking the shape of a giant computer controlled Cobra. This weapon shoots laser beams and the only way to put an end to its wicked capers is to shoot out the monster creature's eyes which form the nerve centre of the beast. The Cobra's metal body is inpenetrable by normal bullets or laser beams. Ironblood's first course of action in his masterplan is to smash the training camp of Action Force troops.



If you want to win the game you must destroy the Cobra, but you'll find that if you thwart Baron Ironblood's first attempt at world domination he'll make a speedy come-back with a Mark II version of the Cobra which the Action Force troops must attack in order to survive.

This is a fun death and destruction game (which sounds incongruous but is actually true) and makes a very pleasant change from all the space games thrown down your throats. And with the current publicity given to Action Force (who came up with the idea of the very successful Action Man doll) along with the comic and dolls of the same name, this new cartridge should do well. It's certainly an enjoyable game to play.

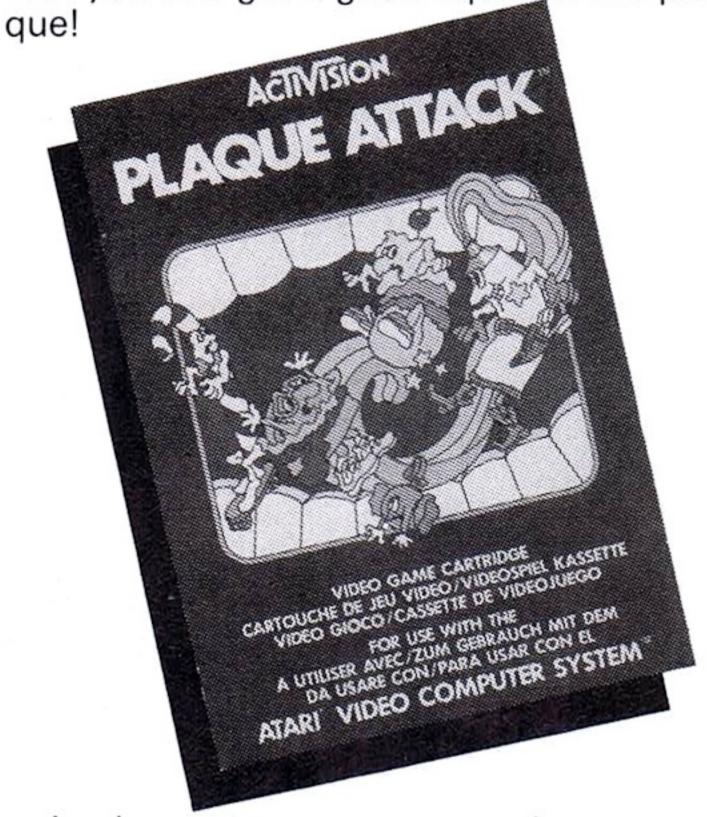
Made by Parker Price: £29.95

#### PLAQUE ATTACK ATARI VCS

Preventing tooth decay is the job in hand in this unlikely sounding game called Plaque Attack.

It makes a great change from the space theme games which have saturated the shop shelves over the past 18 months. Whoever dreamed up this idea for a computer game must have applied some lateral thinking to the ever popular space invaders game. In Plaque Attack your laser gun becomes a tube of toothpaste, your defence bases are a row of top and bottom teeth, and the alien invaders become plaque. Yuk!

Using the joystick controls you operate the tube of toothpaste and it's up to you to destroy the pieces of plaque by squirting a blob of toothpaste at any lurking plaque pieces. The plaque has a nasty habit of attacking both rows of teeth at the same time (more or less) so you must try and develop peripheral vision in order to keep a check on the position of the plaque. Your joystick can make the tube of toothpaste turn upside down (depending on which way you are initially facing) so that you can get a good squirt at the pla-



As the game progresses and you complete the first wave of plaque, further waves of decay-causing foods appear onscreen and these become increasingly bad for the teeth if left to take root. Each time you shoot down a particle of food you score points — the score depends on the type of food you destroy. The sort of food you will encounter during the game are candy sticks, ice cream cornets, junk food, strawberries, chips and sticky sweets.

A leaflet comes with the cartridge and is called the Dental Defense Manual; this proved to be very helpful in understanding the basics of the game and working out a good strategy to adopt if you don't want to wind up with NHS dentures or an acute case of gum disease. If nothing else, Plaque Attack will probably put you off sweets for life. And if cleaning your teeth has never been a strong point of yours there's a short, amusing cartoon sketch which tells you a few facts about tooth decay and and how *not* to lose \*YOUR teeth.

But apart from the moral of the story the game itself is a delight to play, offering a challenging alternative to the many space games on sale for the Atari VCS, You'll find Plaque Attack in the usual Atari retail outlets, such as some large department stores, and high street electrical chain stores. Some people reckoned they should also be on sale in dental surgeries but that idea didn't go down too well in the office!

Made by Activision Price: £29.95

#### GALAXIAN ATARI VCS

Atari has come up with a small gem in this version of the original arcade game which features swooping aliens of several different types. You, the player, of course have to destroy them.

If that sounds familiar to you, you'll be right in thinking that Galaxians is a variation on the old theme of space invaders. But the green meanies in this game are tremendously tougher than those filling the screen in space invaders.

When you switch on the game you'll see the frightening sight of four different types of alien. At the very top of the screen are Flagships, next row down are the Escorts whose job it is to protect the Flagshps. Next row down are the Emissaries followed by three rows of Drones. Your initial task is to wipe out the first and subsequent waves of different invaders. You have to do it all at once.

It's not as easy as it sounds though, because the aliens have a nasty, unnerving habit of suddenly swooping down towards your laser gun in strict formation and destroy your laser gun in a Kami-Kazi style death dive. Be warned, more often than not it works! Be careful when your firing base is positioned either to the extreme left or right of the screen. Although the instruction booklet supplied with the cartridge tells you these are safe spots, they're not. On occasions the aliens will dive towards your gun and destroy it.



Another important thing to watch are the numerous bombs which the aliens drop. These rain down in random places on the screen and must be avoided by your laser base. If not, contact with the bombs ensure instant destruction of the base. In total you have three lives with which to play during the game. Extra lives are given at certain stages throughout the game awarded on a high score points basis.

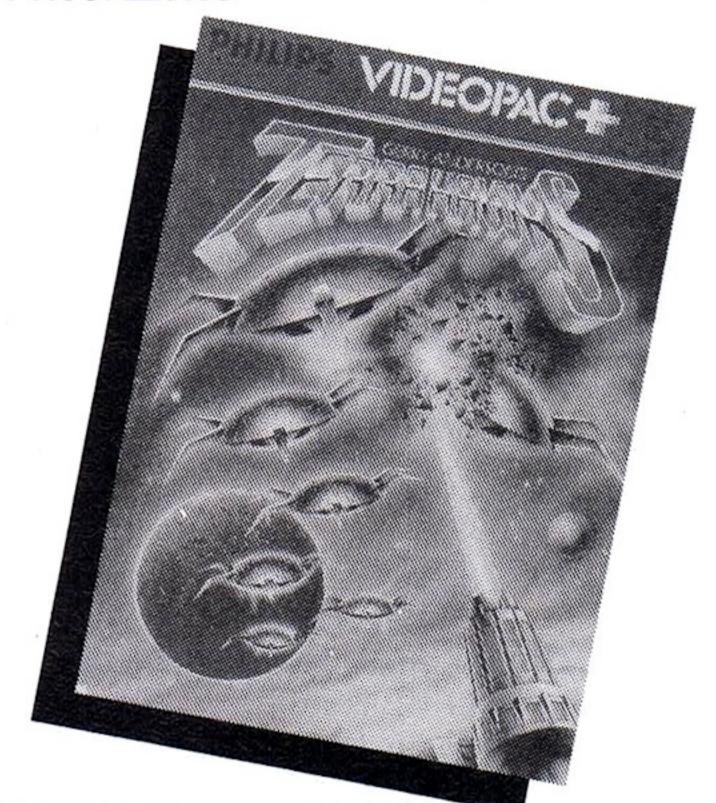
Difficulty increases with the number of attacking waves you succeed in destroying, marked by faster screen action and many more bombs being released from the aliens' special hatches.

Considering the limitations of the Atari VCS and other similar systems the graphics and speed of Galaxians is of a

high standard. It certainly proves to be an addictive play and is much more interesting than the space invader game which it came from. Definitely a game to keep you out of the kitchen while Mum cooks the Christmas dinner.

Produced by Atari itself, Galaxians is on sale at all the normal retail outlets and High Street electrical chain stores.

Made by Atari Price: £29.99



TERRAHAWKS PHILIPS G7000

Under attack from the evil alien forces of Commander Zelda is the nerve centre of the Terrahawks whose sole reserve is to defend the earth from dangerous space enemies.

The Terrahawks' highly trained men use a specially equipped energy laser beam to shoot down Zelda's flying saucers before they release deadly rockets. During the first part of the game these rockets aren't too difficult to deal with. But when you progress to the second wave in the attack Zelda's mother ship calls up saucers which release more deadly Antimatter Mines. These have a special computer device designed to home in on the Terrahawks moveable energy base.

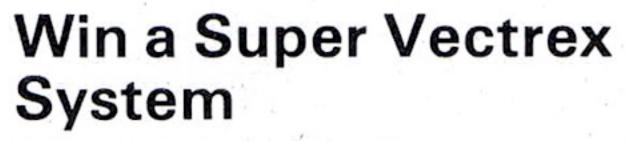
If you manage to survive the attack a further battle in the third phase ensues in which you have to fight off the deadly green Anihilators. These weapons are Zelda's penultimate resource and are extremely sneaky. They descend from her mother ship but beware, they don't explode on contact with the ground. On touchdown they slide along the ground towards your laser base exploding on contact with you. The best way to get rid of these nasties is to blow them up during their descent.

But don't think you can stop there. Zelda's last resort is to send her nucleonic space mines in search of your laser firing base. At the same time all the other previously encountered weapons appear on the screen and the Terrahawks nest is getting swamped by the attackers. Only the very fastest of action can get you out of the many tight spots that you'll find your energy laser beam gets into.

Once you've discovered your playing technique you just play away through the different attack waves until your energy firing station is destroyed — then that's it, the game's up.

Made by Philips Price: £27.95





More competitions with piles of prizes up for grabs in the launch issue of *Games Computing*.

Here's a chance in a life-time to win your own **Vectrex** System reviewed in this issue's feature on 'Toys for Christmas'. Since this game playing system was first brought out about a year ago it has grown rapidly in popularity and provides a superb alternative to the VCS, Intellivision or Colecovision machines. You don't need to plug it it into the telly (something which your Mum and Dad will probably be thankful for). Instead it's a free standing micro processor controlled machine which you plug straight into a normal power point.

#### Software Galore

There's a huge range of software on sale for use with the **Vectrex** System which won't damage your wallet too much. The games are priced between £11 and £25. The **Vectrex** works differently from other games systems in that the lines displayed on the phosphor screen are vectorgraph lines and not 'dots' which form blocks on a screen. For that reason each game played on the **Vectrex** consists of linear pictures only, yet despite that they give a marvellous effect of 3D because they are drawn in perspective.

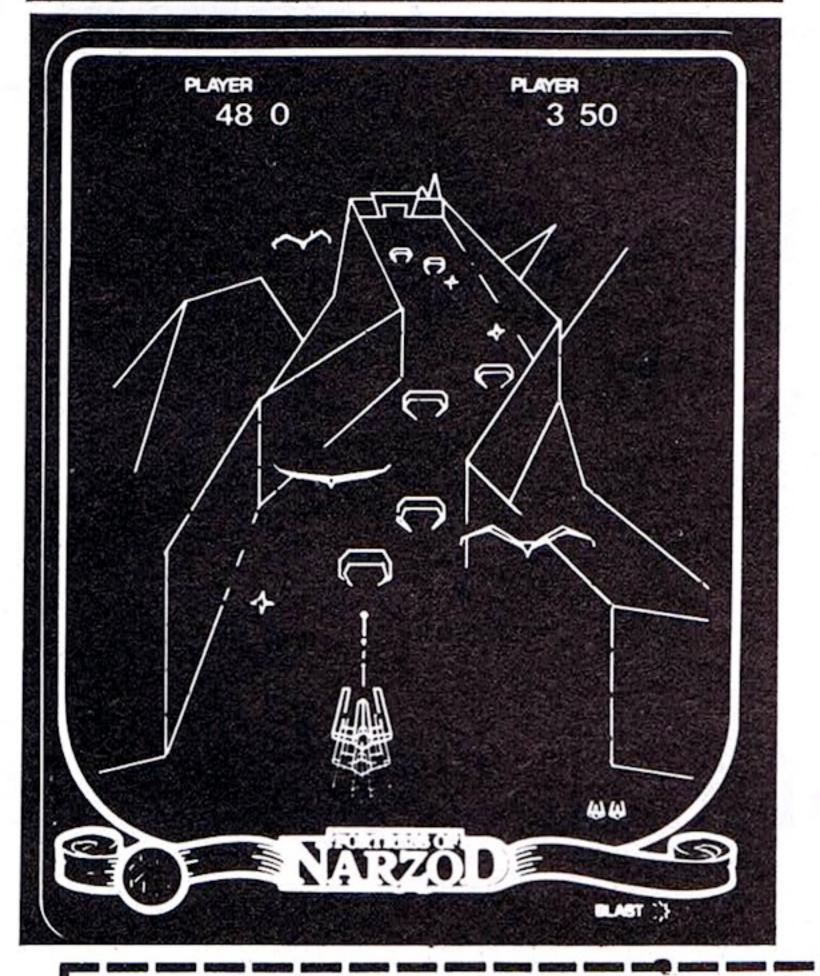
One drawback is that the screen only displays graphics in black and white, but **Vectrex** has overcome that by producing games with coloured overlays to place over the system's screen giving it much more variety and depth. Making the system even more interesting is the forthcoming launch of a pair of 3D goggles which make a tremendous difference in realism to the games. News of the goggles' availability will be reported in *Games Computing* as soon as we get wind of them. Turn to our report on MIJID for more details.

4820 3750

NARZOD

PLAYER TWO

PLAYER ONE



Competition itself
This is a quick and easy task for you to

This is a quick and easy task for you to complete if *you* want to win a **Vectrex** System.

Below you'll see two pictures of the covers of one of the games produced for the **Vectrex**. We've been a bit sneaky here at *Games Computing* and have blocked out some of the elements in the picture on the right. So it's a sort of spot the difference competition. The pack pictured on the left is complete and you must note down the 10 things missing from the **Vectrex** pack on the right.

When you've sorted them out send in the coupon, stuck on the back of a postcard to VECTREX/GAMES COMPUTING COMPETITION at ASP Ltd, 145 Charing Cross Road, London WC2E 0HH, or after the 19th December to 1 Golden Square, London W1. In case you're wondering why there are two addresses it's because *Games Computing's* publishers Argus Specialist Publications is moving offices at the time mentioned above.

Fill in the form below and send it to us. Good luck and happy hunting!

#### **Competition Rules**

- This competition is open to all UK and Northern Ireland readers of Games Computing, except employees of Argus Specialist Publications Ltd, their printers and distributors, employees of Milton Bradley Ltd, or anyone else connected with the competition.
- As long as the correct coupon is used for each entry, there is no limit to the number of entries per person, photocopies of it will not be accepted.
- 3. All entries must be postmarked before January 31, 1984.
- The prize will be awarded to the first correct entry picked at random which satisfies the rules of the competition.
- No correspondence will be entered into with regard to the results and it is a condition of entry that the Editor's decision is accepted as final.
- 6. The winner will be notified by post and the results will be published in a future issue of *Games Computing*.

Name	
Address	
	Telephone
Differences	
1	6
2	7
3	8
4	9
5	10



#### Texas TI99/4A



ARENA III

(EXT. BASIC)

Space war. Defend your ship from attacking aliens. Battle your way to Arga. To land, you must blast out a landing strip. Descend from ship through treacherous meteor storms. Laser cannon, neutron bombs, space walks. This game has the lot.

PINBALL + CUBITS (EXT. BASIC)

£4.95

Two games on one tape. A realistic pinball machine. All the excitements of the real thing. Cubits: A test of skill and memory for those who like a challenge.

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(BASIC FLASH EXT. BASIC)

£4.95

A maze with a difference. Hidden fences and openings. Can you find them? Charm the deadly sculls of predecessors, or be eaten alive. Fast reflexes needed for each of the 100 moves allowed.

Send cheque or P.O. to Lizard Games, Orders post free. 14 Bridgwood, Brookside, TELFORD, Shropshire TF3 1LX.

### THE PICKARD JOYSTICK CONTROLLER

Use with any game. No special programme. Any keys, not just cursors. Other add-ons not affected. Only £19.95 plus £1.50 p&p.

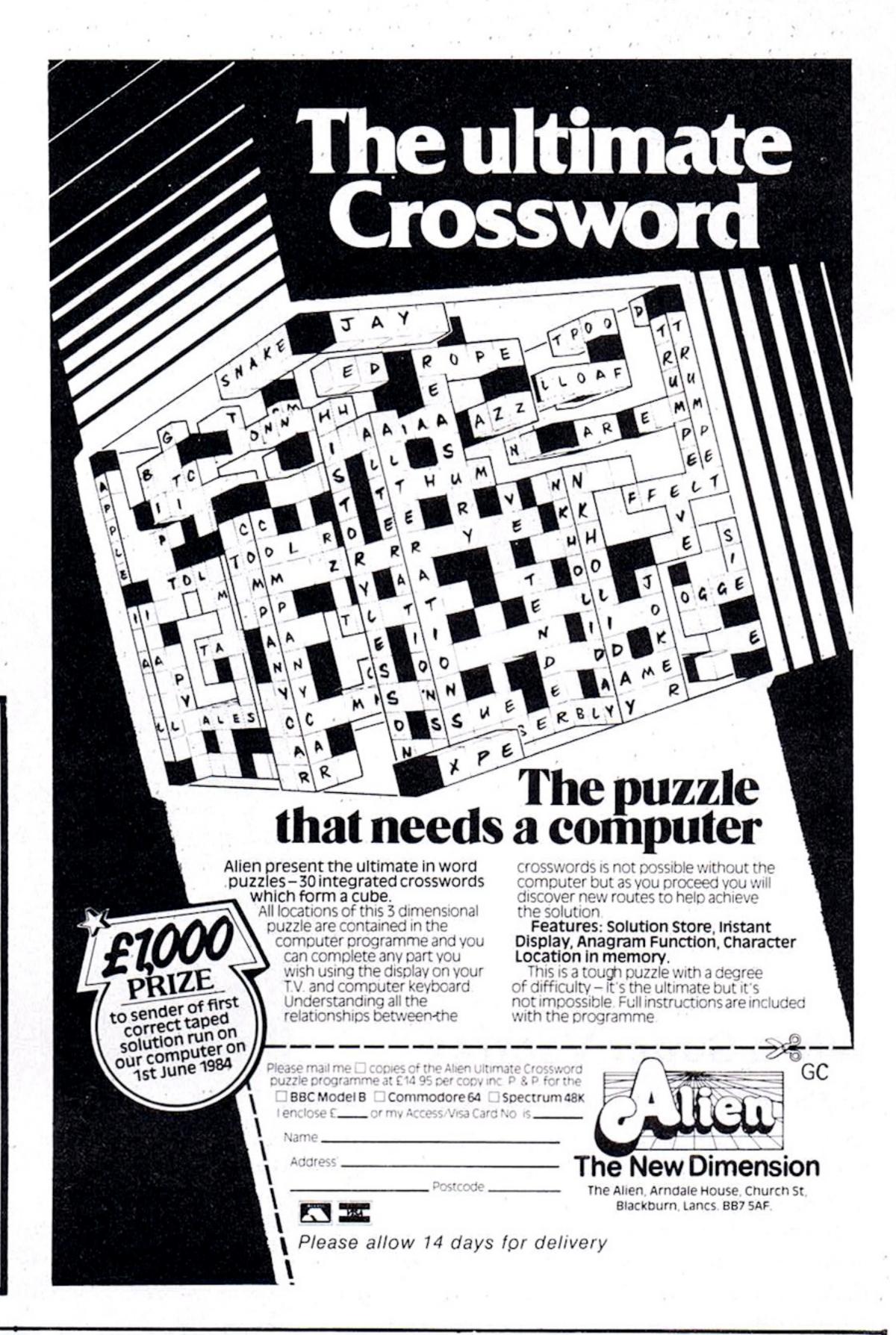
Business and Educational Software Now Available

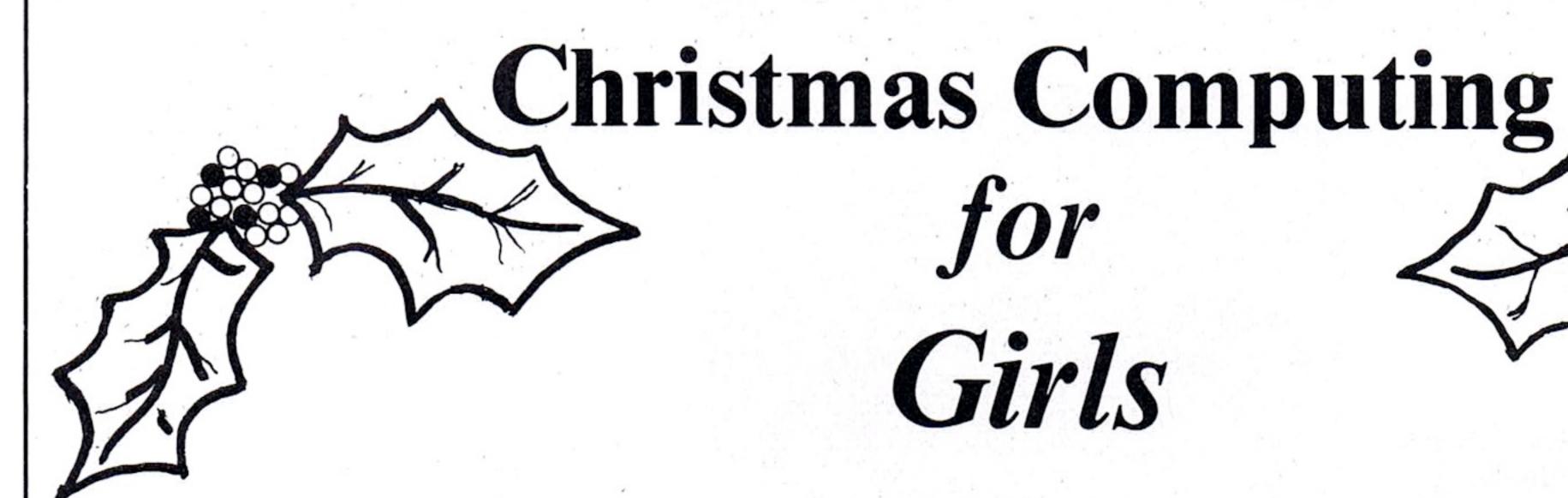
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## A Christmas Offer for £19.95

VIC-20

• Bella Comes to Life . . . a novel computer game to create a girl's ideal friend.

ZX-81

**SPECTRUM** 

BBC-B

• Bella Begins Computing . . . a set of 3 tapes to introduce the machine, the keyboard, basic concepts of structured computer programming and computer graphics – as part of a game.

#### **PLUS**

A CHANCE TO WIN A T.V. SET IN EVERY PACK.

SAGA SOFTWARE Mitchell House, 185 High Street, Cottenham, Cambs.



In the year 2020 an exploratory space mission to the far side of the moon was aborted leaving stranded astronauts with only their backpacks to survive until a rescue team arrived.

Your job in this game of skill and daring is to take the part of the rescue team and safely pick up the stranded men from the moon's surface, at the same time avoiding the many meteors that float above the moon. You must rescue as many men as possible by guiding your spaceship and releasing a ladder from the special 'help hatch' to the surface of the moon. When correctly positioned, the stranded astronauts can climb up the ladder into the safety of the ship. But BE CAREFUL, if the meteors make contact with either the ladder or your rescue ship a massive explosion will blast you to smithereens! Not a happy ending to the rescue mission.

#### Playing the Game

To get the game rolling the keys to use are the '1' to move to the right, the '2' to move your ship to the left, '9' to move the ship downwards, 'O' to move it upwards, '3' to release tha ladder and '4' to make the man climb the ladder. A word of advice, REMEMBER to hold down key '4' until the ship has been reached, and when successfully done you will be serenaded with a well known melody!

In total you have three ships to play with and the game ends when all three have been destroyed. One of the game's features is that there is a running total

displayed throughout the game. The points system works on the basis of 100 points awarded for each astronaut rescued. For details on the user defined graphics operation see the program itself.

#### RUNdown

Line	Action		
100	Sets colour.		
105	Program initialise.		
110	Sets up user defined graphics.		
115	Sets up used defined graphics.  Sets up array used for co-		
115	ordinates of meteors.		
123-135	Draws moon surface.		
140-150	Program initialise.		
155	Prints score.		
160	Prints man on moon surface.		
165	Moves ship depending on key		
	pressed.		
175	Prints ship.		
180	If the ship is above the man		
	and the '3' key is pressed, goes		
	to routine to print ladder.		
185	Checks to see if ladder is pre-		
	sent.		
195	Moves man up ladder.		
200	Detects if man has reached		
	ship or not.		
205-230	Prints meteors and checks if		
	ship is blown up.		
240-270	Routine to print ladder.		
275	Man reaching ship routine.		
280-290	Updates points. Returns to		
200 200	main program.		
295-360	Ship blowing up routine. If you		
200-000	have no more ships left, will		
365-480	Start playing tune.		
303-400	Data for user defined graphics.		

490	Data for meteor co-ordinates.		
500-520	Data for tune for man reaching		
	ship.		
530	Data for music for ship blow-		
	ing up.		

#### **Conversion Clues**

Most of the program is self explanatory, with the variables explaining themselves.

with the	with the variables explaining themselves.			
Line 110	Action Will need changing to suit your machines requirements to use the user defined graphics.			
115	Is used to store the co- ordinates of the meteors and unless your machine has a			
	PRINT AT facility, this line and others incorporating PRINT AT will have to be changed to enable the screen POKES to work.			
135	Uses a system varaible, 23677, which looks at the co-ordinate of the last x-point plotted.			
145	This function of INKEY \$ will need to be changed to GET\$.			
225	ATTR will need to be changed to a screen PEEK.			
275	The BEEP will need to be changed to suit your micro's requirements.			
490	Co-ordinates of meteors. If you are screen POKEing these will need to be changed.			
500-530	Data for BEEP statement will need to be changed.			

GAMES COMPUTING JANUARY 1984

# 

医动物菌虫



# 



105 LET ship=3: LET points=0: D IM a (5,2) 110 FOR i=1 TO 13: READ as: FOR a=0 TO 7: READ b: POKE USA as+a .b: NEXT a: NEXT i 116 RESTORE 490: FOR i=1 TO FOR J=1 TO 2: READ 8: LET 8(1,3) =a: NEXT J: NEXT i 120 PLOT INK 6;0,4 125 DRAW INK 6;0, ((RND).5) \*2) - ( (RND).5) #2# (PEEK 23676)1)) 130 DRAW INK 6;3,0 135 IF PEEK 23677(250 THEN GO T 0 125 140 LET mcol=INT (RND#29)+1 145 DEF FN a(c) = INKEY \$=5TR\$ C 150 LET line=10: LET col=14: T (Bdder=0: LET mline=20: LET 155 PRINT AT 0,0; INK 4; "Score-"; points 150 BEEP .01,50: PRINT AT 20, mc 01; OVER 1; INK 6; "Q."; AT 21, mcc 165 IF (FN a (9) AND (line (=19)) OR (FN a(0) AND (line>0)) OR (F N a(2) AND (col(28)) OR (FN a(1) AND (col)=0)) THEN PRINT AT lin e,col;" ";AT line+1,col;" ": LET line=line+(FN a(9)-FN a(0 )): LET col = col + (FN a(2) - FN a(1)170 REM to get A type in gh' n graphics mode to get pe in 'ijkl' in graphics mode

175 PRINT AT (ine,col; INK 4;"
"; AT (ine+1,col;"
"; AT (ine+1,col;"
"; AT (ine+1,col;"
"; AT (ine)=9 AND
(adder()1 AND mcol=col+1 THEN GO
SUB 0240
185 IF RND).8 AND (adder()1 THE
N GO TO 165

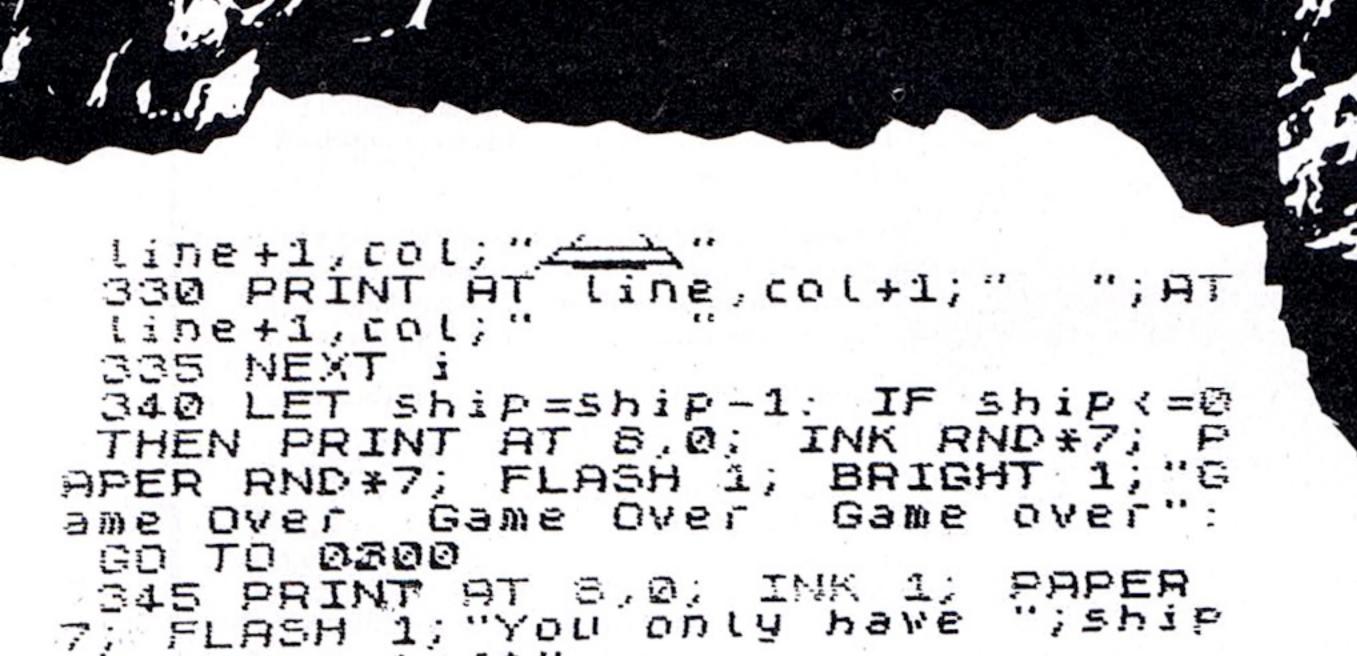
190 REM to get | type in 'ab'
in graphics mode to get Q
type in 'ef' in graphics mode
to get ^ type in 'cd' in graphi
cs mode

1, mcol; "|-|": LET mline=mline-1 200 IF ladder=1 AND mline=line+ 1 THEN GO SUB 275 205 LET dnum=1 210 IF a (dnum, 2) = -31 THEN LET a 10 = (3, 000)215 REM to get a type in 'm' in graphics mode 220 PRINT AT a (dnum, 1), a (dnum, 2 ;" ": LET a (dnum,2) = a (dnum,2) - 1 PRINT AT a (dnum, 1), a (dnum, 2) INK 2; "•" 225 IF ATTR (a(dnum,1),a(dnum,2 ) +1) <=6 OR ATTR (a (dnum, 1), a (dnu m, 2) - 1) (=6 THEN GO TO 0295 230 LET dnum=dnum+1: IF dnum<=5 THEN GO TO 210 235 GO TO (155\*(ladder()1))+(18 Ø\*((adder=1)) 240 LET counter=line+2: LET Lli ne=col+1: LET ladder=ladder+1 245 FOR i=counter TO 21 250 PRINT AT i, Lline; OVER 1; I NK 6; " "" 255 NEXT i. 260 PRINT AT mline, mcol; DUER 1 INK 6; "Q."; AT mline, mcol; " ~ " 265 IF ladder=2 THEN LET ladder 270 RETURN 275 RESTORE 500: FOR i=1 TO 56: READ Length, pitch: BEEP Length, pitch: PRINT AT mline, mcol; INK : /7; "Q,"; AT mline+1, mcol; " ": N EXT i 280 PRINT AT 8,10; INK 1; PAPER 7; FLASH 1; "You get 100 points" 285 LET points=points+100 290 FOR i=1 TO 100: NEXT i: CLS : GO TO 115 295 CLS 300 RESTORE 530: FOR i=1 TO 10 305 BORDER 7: BORDER 0: BORDER 7: BORDER 0 310 READ length, pitch 315 BEEF length, pitch 320 BORDER 7: BORDER 0: BORDER

325 PRINT AT Line, col+1; "A"; AT

7: BORDER 0





350 FOR i=1 TO 100: NEXT i 350 PRINT AT 10,0; 355 PRINT AT 10,0; 360 CLS: GO TO 115 365 DATA "3",BIN 1100000,BIN 1

1000000,BIN 11000000.BIN 1111111 1,BIN 11000000,BIN 11000000,BIN 11000000,BIN 11000000 370 REM \*\* 375 DATA "b",BIN 00000011,BIN 0 0000011,BIN 00000011,BIN 1111111 1,BIN 00000011,BIN 00000011,BIN 00000011,BIN 00000011 380 REM \*\* 385 DATA "c",BIN 00000001,BIN 0

2000010,BIN 000001100,0,0,0,0,0 390 DATA "d",BIN 100000000,BIN 0 1000000,BIN 00110000,0,0,0,0,0 395 REM \*\* 400 DATA "e",0,BIN 00000001,BIN 00000010,BIN 00000010,BIN 00100

010,BIN 00010001,BIN 00001001,BI N 00000111 405 REM \*\* 410 DATA "f",0,BIN 10000000,BIN 01000000,BIN 01000000,BIN 01000 100,BIN 10001000,BIN 10010000,BI

N 11000000 415 REM \*\* 420 DATA "g", BIN 00001100, BIN 0 0000100, BIN 00001111, BIN 0001111 1, BIN 00111111, BIN 01111111, BIN 01011111, BIN 01001111

425 REM \*\*
430 DATA "h" BIN 00110000 BIN 0
0100000 BIN 11110000 BIN 1111100
0 BIN 11111100 BIN 1111110 BIN
11111010 BIN 11110010

435 REM \*\*
440 DATA "i",0.0.5IN 00000001,5
IN 00001111.5IN 00010000,8IN 001
00000,8IN 01111111,8IN 1000000
445 REM \*\*
450 DATA "j",8IN 01000000,8IN 1

0000000,0,BIN 111111111.0,0,8IN 1 1111111,BIN 11111111 455 REM \*\*

450 DATA "k", BIN 00000010, BIN 0 0000001, 0, BIN 11111111, 0, 0, BIN 1 111111, BIN 1111111

455 REM \*\* 470 DATA "L".0,0,8IN 10000000,8 IN 11110000.8IN 00001000,8IN 000 00100,8IN 11111110,8IN 0000001

480 DATA "m" BIN 00111100 BIN 0 111110 BIN 11111111 BIN 111111 1 BIN 11111111 BIN 11111111 BIN 0111110 BIN 00111100

485 REM \*\* 490 DATA 10,31,12,15,14,8,16,0, 18.24

495 REM \*\*
500 DATA .4.0 .4.2.039 .7.3.86
.3.0 .3.3.86 .3.0 .7.3.86 .7.2.0
39.4.3.86 .3.4.98 .3.4.98 .3.3.
86.3.2.039 .7.4.98 .7.3.86 .4.4
.98.4.7.02 .3.3.86 .3.7.02 .3.3

510 DATA .7,4.98,.4,7.02,.3,8.8 4,.3,8.84,.3,7.02,.3,4.98,.7,8.8 4,.7,7.02,.3,0,.3,2.039,.3,3.86, .3,4.98,.3,7.02,.4,8.84,.7,8.84, .3,2.039,.3,3.86,.3,4.98,.3,7.02 ,.3,8.84,.4,10.88,.7,10.88 515 REM \*\* 520 DATA .3,3.86,.3,4.98,.3,7.0

2,.3,8.84,.3,10.88,.4,12,.4,12,. 4,10.88,.4,8.84,.4,4.98,.4,8.84, .4,2.039,1.0 525 REM \*\*

530 DATA 1,0.1.0,.5.2,.5.0,.5.3 ,.5,0,.5,-1,.5,0,.5,1,1,0

#### 'NOW WIN THE POOLS'

THIS IS MEANT FOR YOU — ESPECIALLY IF YOU USE A SINCLAIR SPECTRUM COMPUTER or even ANY COMPUTER — OR NO COMPUTER AT ALL.

HAVE YOU EVER HAD THAT DREAM OR EVER WISHED THAT YOU HAD "WON ON THE POOLS" — AT LAST YOU CAN TURN IT INTO REALITY.

THERE IS A SECRET OF "HOW TO WIN ON THE FOOTBALL POOLS" — IT CAN BE DONE. I DISCOVERED THE SECRET A LONG TIME AGO — NOW, FOR THE FIRST TIME I'M PREPARED TO SHARE IT WITH YOU.

HOW DOES THIS INTEREST YOU — I HAVE DOCUMENTARY EVIDENCE BY WAY OF POOLS WINNINGS DIVIDEND SLIPS/ CANCELLED CHEQUES, etc, SHOWING MY PRESENT WINS ON THE POOLS AS FOLLOWS:—

First Dividends Second Dividends Third Dividends Fourth Dividends Fifth Dividends Sixth Dividends 765 1,818 2,942 1,952 631 93

A GRAND TOTAL OF 8,201 (EIGHT THOUSAND, TWO HUNDRED AND ONE DIVIDENDS — so far).

#### I HOLD THE UNCHALLENGED WORLD'S RECORD FOR POOLS WINS

I AM MAKING THIS VERY SPECIAL, REDUCED PRICE OFFER TO READERS OF HOME COMPUTING WEEKLY FOR A LIMITED PERIOD ONLY.

Do not let anyone tell you that it is impossible to "WIN ON THE POOLS" — since I perfected my method, I HAVE WON REGULARLY for over TWENTY-FIVE YEARS — proof that it is no 'flash-in-the-pan'.

I have CHALLENGED THE WORLD with my record of wins and with all the evidence that I possess — NO ONE has ever been able to accept the Challenge — I KNOW NO ONE EVER WILL.

#### MY SECRET IS NOW PLACED ONTO COMPUTER CASSETTE FOR YOU.

THE METHOD IS THE GREATEST TREBLE CHANCE WINNER IN THE HISTORY OF FOOTBALL POOLS — IT WILL LAST FOREVER — BOTH FOR ENGLISH AND AUSTRALIAN FOOTBALL POOLS, WITH EQUAL SUCCESS.

I now intend to give a limited number of people the opportunity of making use of my method — perfected over 25 years and proving itself on EVERY ONE OF THOSE TWENTY-FIVE YEARS.

You will have noted details of my personal achievements so far, as given to you above.

A GRAND TOTAL of 8,201, yes 8,201 POOLS DIVIDENDS, including 765 FIRST DIVIDENDS.

My Pools Winnings Dividend slips now number so many, that they fill a very large suitcase and will stand as my evidence of all claims in ANY COURT OF LAW IN THE WHOLE WORLD.

Taking just the past 25 years into consideration, I have won ON AVERAGE over 328, (THREE HUNDRED AND TWENTY—EIGHT) Pools Dividends EVERY YEAR — or — AN AVERAGE of over SIX DIVIDENDS EVERY WEEK for TWENTY—FIVE YEARS.

You have my absolute Guarantee of the complete authenticity of every claim, cheque, document, letter, etc, contained herein.

I do have losing weeks, but ON AVERAGE my winnings show over SIX DIVIDENDS EVERY WEEK for the past 25 years.

I know that you are now utterly flabbergasted, it always happens to everyone with whom I come into contact. Please just sit back and **imagine** for a moment my **FIRST DIVIDEND** wins alone — they now number 765 (seven hundred and sixty-five) and will probably be even more by the time this advertisement appears in print.

I AM NUMBER ONE IN THE WORLD AND NO ONE DISPUTES IT.

For as long as I continue to enter the Football Pools my wins will continue. I have already said, they apply, with equal success to both English and Australian Football Seasons.

I intend to release a STRICTLY LIMITED NUMBER of copies of my cassette — DO NOT DELAY AND FIND YOU ARE TOO LATE, in which case I would have to refund your money.

I am so confident of YOUR success that if do not win at least THREE FIRST TREBLE CHANCE DIVIDENDS in the first 20 weeks of entering, I will completely cancel the balance of the purchase price and you do not have to pay me another penny, at any time, no matter how vast your winnings.

I only wish that space would allow me to give you photographs of my winnings slips, cancelled cheques, etc, but it is of course impossible — they now number 8,201 dividends. I have however given JUST A FEW EXTRACTS from ORIGINAL LETTERS I hold from my small Clientele.

I am the Inventor and Sole Proprietor of my method, Registered as EUREKA — ('I have found it'). I am known as The Professor in Pools Circles — I am of the Highest Rank in Forecasting — this is beyond dispute. I am marketing a limited number of Computer Cassettes, under my Registered Company — FOOTBALL ENTERPRISES.

My initial charge for a copy was £75, but for this SPECIAL REDUCED PRICE OFFER I will send you a copy, for £20, (twenty pounds) ONLY, plus your Promise to pay me the balance of £55—ONLY IF YOU WIN AT LEAST THREE FIRST TREBLE CHANCE DIVIDENDS IN YOUR FIRST 20 WEEKS OF ENTERING—otherwise you owe me NOTHING FURTHER.

This is surely proof absolute of my supreme and utter confidence in my own abilities and in the capabilities of my discovery. I could easily CHARGE £2,000 per cassette on the evidence I possess, but that would not be fair to everyone, which is what I want to do.

My method is WORLD COPYWRIGHT, any infringement and immediate proceedings will be taken, without prior warning. It is truly ingenious and has stood the test of time.

My cassette is simplicity itself to operate and you'll be given FULL DETAILS for weekly calculating. Your entry need not involve you in any large weekly stakes, you can enter for as little as 25p, if you wish.

I charge NO COMMISSION on any of your wins — no matter how BIG they may be.

I realised a long time ago, that it was no good sitting down and **dreaming** about winning the pools, so I burnt the candle at both ends, working late into the night, occasionally RIGHT THROUGH THE NIGHT, I **KNEW** there was a way, eventually it all paid off and has been doing so ever since.

I am unable to vary my offer to anyone, so please do not request it, as I shall very easily dispose of the cassettes I have prepared and am making available.

IMMEDIATELY I perfected my method I commenced winning right away, (first with just a little £163, the first week I used it), I HAVE NEVER LOOKED BACK SINCE, amongst all those dividends was one for over EIGHT THOUSAND POUNDS for just one eighth of a penny stake.

I will release a copy on cassette, to you, on receipt of the completed order form and your Signature thereon, confirming you will treat it in the STRICTEST CONFIDENCE between us and retain it for your **OWN USE ONLY**.

#### PLEASE NOTE:

If you happen to be the proud owner of a Computer, other than a Sinclair Spectrum, you can still purchase a copy of my method, for the same price and program it YOURSELF on to YOUR OWN COMPUTER — or even if you do not have a COMPUTER.

Don't take my word for it, read what people write about me and my method:-

I won on Zetters last weekend. It was not a big sum, but all the same it was a very nice surprise for me.

J.C., Lancs.

I appreciate the straightforward method you adopt, which is such a contrast to the rubbish of misrepresentation which is so common in the Betting World, by unscupulous and self-opinionated charlatans.

C.H., Devon

Winnings cheque received today, sincere thanks.

D.N., Devon

I congratulate you on your achievement.

R.R., Wales

I should like to thank you for a most exciting season and look forward to hearing from you again.

J.C., Hants.

I would like to acknowledge cheque and say how much I appreciate your integrity.

J.M., Scotland

Many thanks for your system, it is all you say and more.

J.C., Lancs.

Your wonderful system won me £3,527. I intend to visit London soon and will be able to come and see you personally. (Overseas Client). P.M., Kampala.

Many thanks for trying so hard to please us all, your brother should be thanked also. One of our daughters, WHOSE HUSBAND YOU HELPED ENORMOUSLY, has just phoned, the four of them have just spent a lovely holiday in Spain.

K.R., Isle of Man.

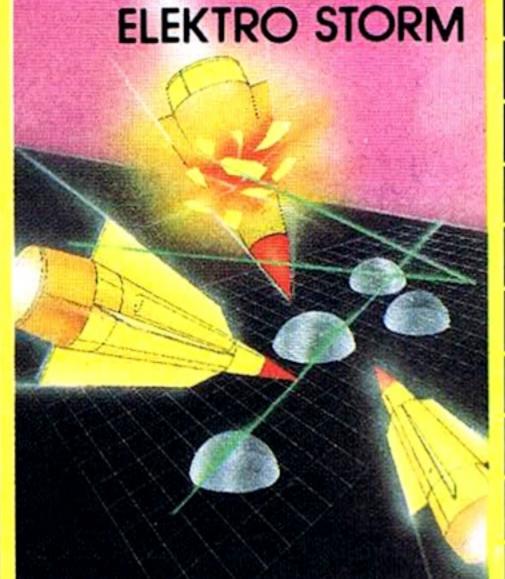
I sent in my FIRST entry last week and won 2nd and 3rd dividends, as you will see from the enclosed certificate. One more and I would have collected over £400 for FIRST dividend. Once I've won a fair amount I shall be staking from winnings and at 2p per line, A FIRST DIVIDEND last week at this would have been over £3,000.

C.A., Yorks.

I am very interested indeed and enclose £20 herewith. I agree to pay you the
balance of £55 ONLY if I win at least THREE FIRST TREBLE CHANCE
DIVIDENDS in my first 20 weeks of entering - otherwise I owe you NOTHING
FURTHER at any time - no matter how much money I win. My Signature below
is my Undertaking to retain complete and absolute confidence about the method.

Address	
Signature	
The Managing Director,	Please tick if cassette is for:
Football Enterprises,	Sinclair ZX81 (16K)
'Anvon',	Sinclair Spectrum (48K)
9 New Road,	Any other Computer
Haverfordwest, Pembs.	No Computer at all

# AFCOIDE ACTION FOIS PROTEIN AND AUTOMAN AN



# HOPPER

#### **ELEKTRO STORM**

Earth is under attack from wave after wave of intergalactic missiles — your mission is to blast them out of the sky with your laser cannon before the whole human race is wiped out.

SPECTRUM 48K 5-95

#### **HOPPER**

Help FERGUS and his friends across the highway avoiding the traffic, and then over the treacherous river on the backs of turtles and logs to the safety of the lilly pond.

Features include: 6 lanes of traffic, diving turtles, crocodiles & flies.

ZX81 16K 3·95 SPECTRUM 16K 48K 5·95

#### LIGHT CYCLE

The MASTER CONTROL PROGRAM has ordered you to race your light cycle on the infamous grid. This is an incredibly fast, adrenalin pumping game that is very addictive. There is an option to race against either another player or the computer — but we warn you its very very good! SPECTRUM 16K 48K 5.95

#### MAZE DEATH RACE

Drive your 500b.h.p. racing car around a giant maze (9 times the size of the TV screen on the ZX81 version, 32 times for the spectrum). Watch out for the hazards — oil, ice, fallen rocks etc. Not the least of your worries are the chase cars also

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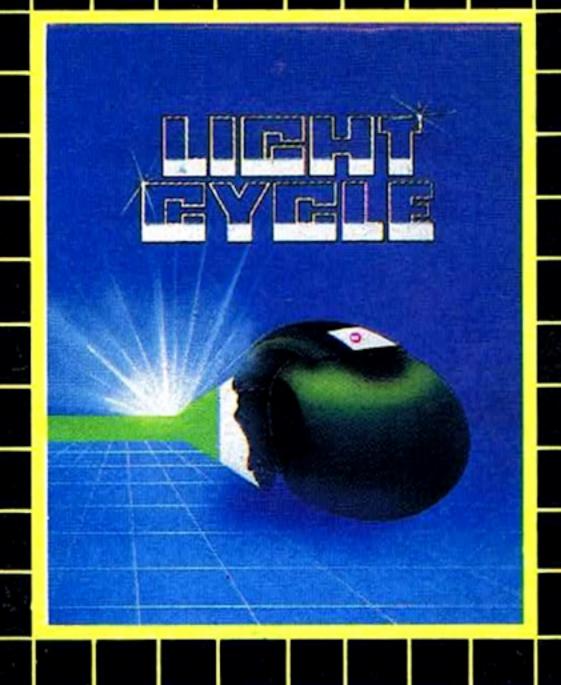
in the maze – one touch with these means instant death! ZX81 16K 3.95 SPECTRUM 48K 4.95

#### PANIC

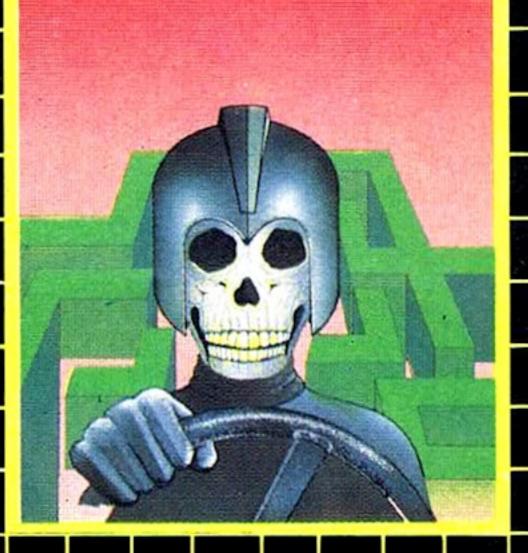
"It must be a nightmare" he screamed as he ran around the maze of floors, desperately climbing ladders to different levels in a vain attempt to evade the monsters. He had only his neutron hammer to dig holes for the vile creatures to fall into, but even then he had to repeatedly hit them before they dropped to their deaths. As if that wasn't bad enough, the oxygen supply was running out!

SPECTRUM 48K 5 · 95

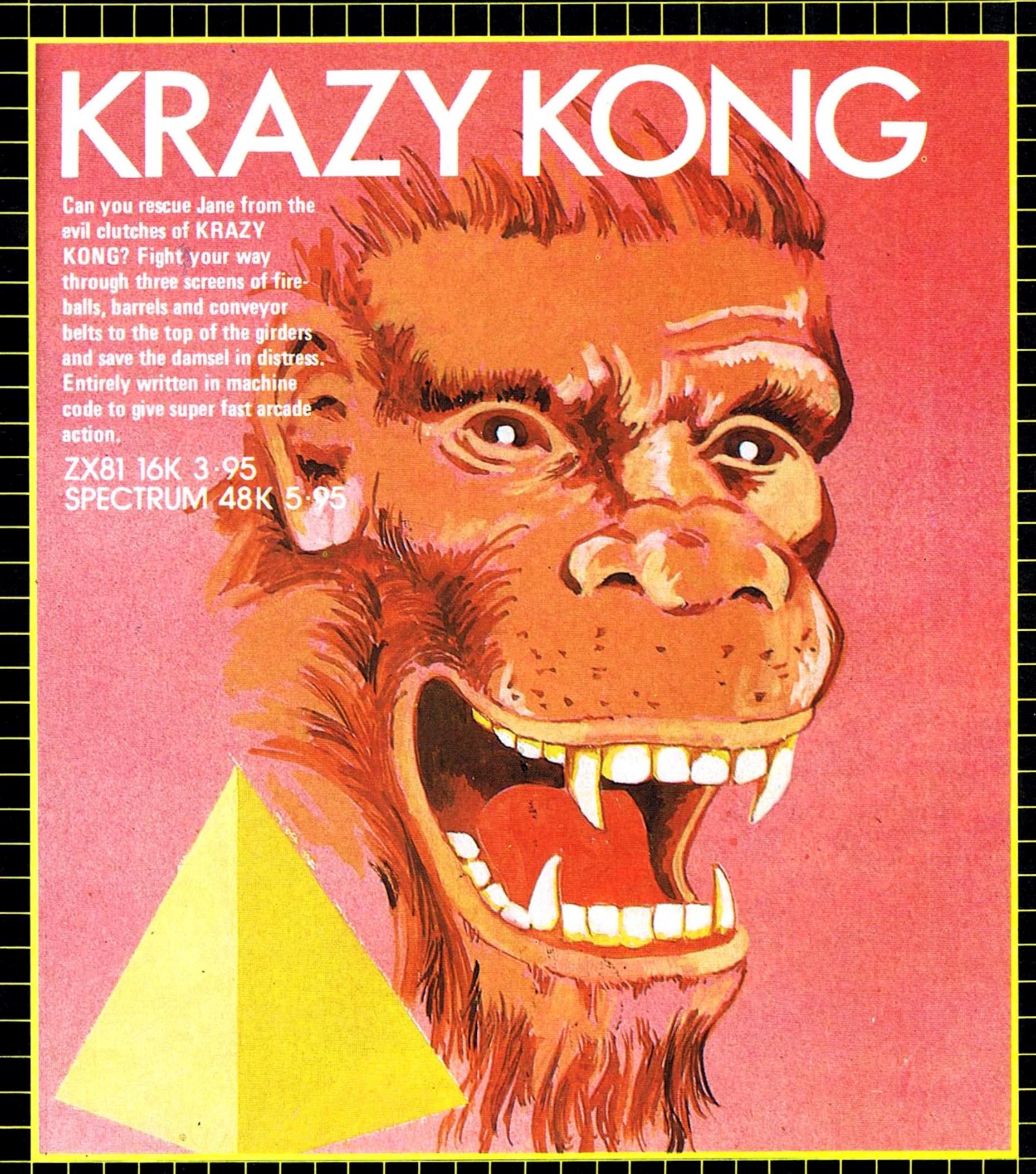


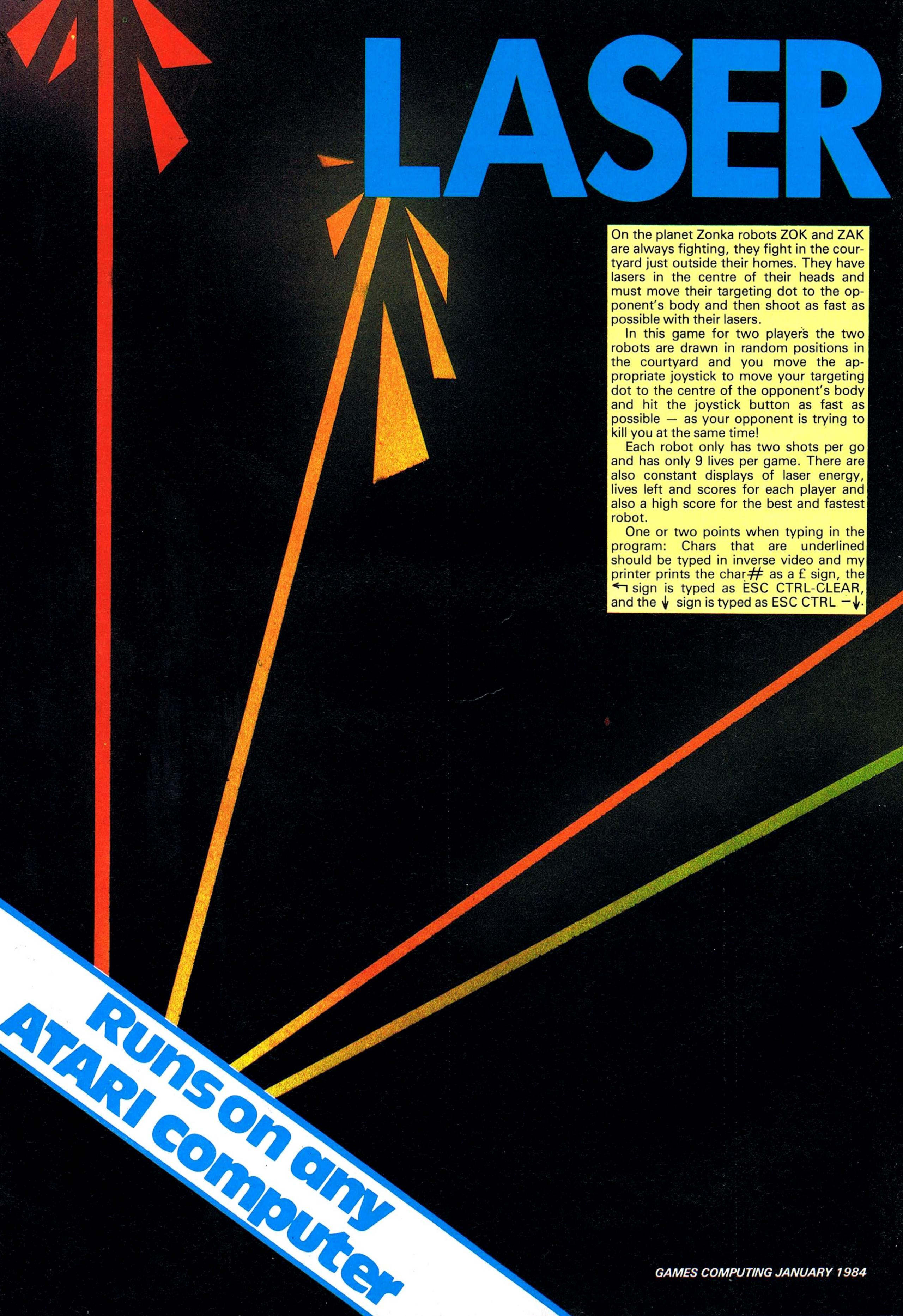


MAZE DEATH RACE









# PRACTICE

```
10 DIM X(2),Y(2),A(2),B(2),SCORE(2),ENERGY(2),LIVES(2):HIGH=0:HITCLR=53277:GOT
 0 10000
 100 CHAR=0:IF STRIG(0)=0 THEN GOSUB 23000:GOSUB 24000:GOSUB 22000:CHAR=1:GOSUB
  22000
 101 GOSUB 26000
 110 CHAR=1:IF STRIG(1)=0 THEN GOSUB 23000:GOSUB 24000:GOSUB 22000:CHAR=0:GOSUB
  22000
 115 COLOR 0:GOSUB 1000
 120 FOR CHAR=0 TO 1:A=STICK(CHAR):GOSUB 24100:NEXT CHAR
 128 COLOR 1
 129 TRAP 23950:GOSUB 1000
 131 REM NEXT I
 132 TIME=TIME+1:IF TIME=10 THEN SETCOLOR 0,RND(0)*15,9:TIME=0
 200 GOTO 100
 1000 FOR CHAR=0 TO 1:PLOT A(CHAR), B(CHAR):NEXT CHAR:RETURN
 10000 REM START/INTRO
 10010 GRAPHICS 18:REM SE.S HERE
 10012 GOSUB 20000:POKE DL+10,6:POKE DL+12,6:POKE 53277,4
 10013 POSITION 2,0:? £6; "*****************
 10015 POSITION 2,1:? £6; "XLASER PRACTICEX"
 10016 POSITION 2,2:? £6; "*************
10020 POSITION 2,5:? £6;
 10022 POSITION 3,7:? £6; e.h.beresford.
 10024 POSITION 4,9:? £6;"....."
 10025 POSITION 4,10:? £6; .eress fire.
10030 POSITION 4,11:? £6; ...to start...*

10030 POSITION 4,11:? £6; ...to start...*

10035 SOUND 0,255,10,8:SOUND 1,254,10,8:POKE 53768,1

10036 SCORE(0)=0:SCORE(1)=0:LIVES(0)=9:LIVES(1)=9

10040 FOR I=0 TO 255:POKE 708,I:NEXT I

10050 IF STRIG(0)=1 AND STRIG(1)=1 THEN 10040

10051 POKE HITCLR,0

10060 SOUND 0,0,0:SOUND 1,0,0,0

11000 REM SCREEN SET UP FOR GAME
11010 GRAPHICS 7:SETCOLOR 2,0,0:SETCOLOR 0,RND(0)*15,8:SETCOLOR 1,3,6
 11011 SETCOLOR 2,14,0
11012 GOSUB 20000: POKE DL, 0: POKE DL+1, 0: POKE DL+3, 70: POKE DL+6, 6
11013 GOSUE 21000:TIME=0
11014 POKE 752,1:COLOR 1:PLOT 0,1:DRAWTO 159,1:DRAWTO 159,78:DRAWTO 0,78:DRAWT
 0 0,1
11025 GOSUB 25100

11100 GOSUB 20010

11205 GOSUB 24000

19999 GOTO 100

20000 DL=PEEK(560)+256*PEEK(561):RETURN

20010 ? '1 LASER LIVES LASER'

20015 ? 'ENERGY1 LEFT LEFT ENERGY2'

20020 ? ';ENERGY(0);:IF ENERGY(0)=0 THEN ? ';
                                                                 *;ENERGY(1)
20025 ? *
                  ";LIVES(0);"
                                                ";LIVES(1);"
 20030 RETURN
 21000 POKE 87,1
 21010 POSITION 0,0:? £6; 1UP
21012 POKE 87,1
21015 POSITION 0,1:? £6;SCORE(0):POSITION 8,1:? £6;HIGH:POSITION 15,1:? £6;SCO
RE(1)
21020 POKE 87,7:RETURN
22000 REM DRAW CHAR(CHAR)
22001 REM X()=XPOS CHAR , Y()=YPOS CHAR TLFTH CORNER
22010 X=X(CHAR):Y=Y(CHAR)
 22011 COLOR 1:PLOT X,Y+1:PLOT X+8,Y+1
 22015 COLOR 2:PLOT X+2,Y:DRAWTO X+6,Y:DRAWTO X+6,Y+4:DRAWTO X+2,Y+4:DRAWTO X+2
 Y:PLOT X+3,Y+5:DRAWTO X+5,Y+5
 22020 PLOT X,Y+12:DRAWTO X,Y+6:DRAWTO X+8,Y+6:DRAWTO X+8,Y+12:PLOT Xf2,Y+9:DRA
 WTO X+2,Y+17:DRAWTO X,Y+17
 22025 DRAWTO X,Y+19:DRAWTO X+8,Y+19:DRAWTO X+8,Y+17:DRAWTO X+6,Y+17:DRAWTO X+6
 ,Y+9:PLOT X+4,Y+18:DRAWTO X+4,Y+13
 22030 COLOR 1:PLOT X+4,Y+1:PLOT X+4,Y+2:PLOT X+3,Y+3:DRAWTO X+5,Y+3
 22031 PLOT X,Y+12:PLOT X+1,Y+12:PLOT X+7,Y+12:PLOT X+8,Y+12
 22035 IF CHAR=0 THEN PLOT X+4,Y+8:DRAWTO X+4,Y+11
 22040 IF CHAR=1 THEN FLOT X+3,Y+8:DRAWTO X+5,Y+8:FLOT X+5,Y+9:DRAWTO X+3,Y+10:
 PLOT X+3, Y+11: DRAWTO X+5, Y+11
 22045 PLOT X+1,Y+1;PLOT X+7,Y+1
 22050 PLOT X+1,Y+18:DRAWTO X+3,Y+18:PLOT X+5,Y+18:DRAWTO X+7,Y+18
 22060 COLOR 0:PLOT X,Y+1:PLOT X+8,Y+1
```

```
22999 RETURN
23000 POKE 77,0:XT=X(CHAR)+4:YT=Y(CHAR)+1
23001 IF ENERGY(CHAR)=0 THEN GOTO 25000
23002 IF CHAR=0 THEN SOUND 0,200,12,10
23003 IF CHAR=1 THEN SOUND 0,50,10,10
23004 TRAP 23950:COLOR 0:PLOT A(CHAR),B(CHAR)
23005 FOR I=1 TO 10
23010 COLOR 1:PLOT XT, YT: DRAWTO A(CHAR), B(CHAR): COLOR 0:PLOT XT, YT: DRAWTO A(CH
AR),B(CHAR)
23015 NEXT I:SOUND 0,0,0,0
23020 CT=CHAR+1:IF CT=2 THEN CT=0
23030 IF A(CHAR)>X(CT)+1 AND A(CHAR)<X(CT)+7 AND B(CHAR)>Y(CT)+6 AND B(CHAR)<Y
(CT)+12 THEN GOTO 24200:REM EXP
23040 ENERGY(CHAR)=ENERGY(CHAR)-1000:GOSUB 20010:IF ENERGY(CHAR)=0 THEN GOSUB
25000
23041 RETURN
23950 A(CHAR)=X(CHAR)+4:B(CHAR)=Y(CHAR)+1:GOTO 100
24000 SOUND 0,0,0,0:POKE 53768,24:POKE 53761,168:POKE 53763,168:POKE 53765,168
:POKE 53767,168:POKE 53760,240
24005 POKE 53764,252:POKE 53762,28:POKE 53766,49:RETURN
24100 IF A=15 THEN RETURN
24103 A(CHAR)=A(CHAR)+5*((A=7)+(A=6)+(A=5)-(A=11)-(A=10)-(A=9))
24105 B(CHAR)=B(CHAR)+3*((A=13)+(A=5)+(A=9)-(A=14)-(A=10)-(A=6)); RETURN
24200 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND 2,0,0:SOUND 3,0,0,0:GOSUB 26200
24203 SETCOLOR 4,8,12:SOUND 0,10,10,4:FOR I=0 TO 10:NEXT I:SETCOLOR 4,0,0
24204 COLOR 1:SOUND 0,0,0,10
24205 FOR I=0 TO 100 STEP 3:POKE 53760,I:XT=RND(0)*10+X(CT):YT=RND(0)*20+Y(CT)
:PLOT X(CT)+4,Y(CT)+8:DRAWTO XT,YT
24206 NEXT I
24207 FOR XT=0 TO 10:SETCOLOR 4,8,12:FOR I=0 TO 3:NEXT I:SETCOLOR 4,0,0:SOUND
24210 SOUND 0,0,0,0:FOR I=0 TO 3:NEXT I:NEXT XT
24212 LIVES(CT)=LIVES(CT)-1:IF LIVES(CT)=0 THEN GOTO 27000
24215 SCORE(CHAR)=SCORE(CHAR)+250*ENERGY(CHAR)/1000:IF LIVES(CT)=0 THEN 27000
24220 POP :POP :GOTO 11000
24299 RETURN
25000 SOUND 1,0,0,0:SOUND 2,0,0,0:SOUND 3,0,0,0
25005 ? " PLAYER "; CHAR+1;" - NO ENERGY LEFT"
25010 FOR I=100 TO 0 STEP -1:SOUND 0,I,12,I:NEXT I:SOUND 0,0,0,0
25040 IF ENERGY(0) <> ENERGY(1) THEN GOSUB 20010: RETURN
                                       PLAYERS 1 AND 2 ::? .
                                                                      OUT OF E
25050 FOR I=0 TO 120:NEXT I:? *↑↓
NERGY .
25055 PDP :POP :SOUND 0,0,8,10:FOR XT=0 TO 6:FOR I=255 TO 20 STEP -6:POKE 5376
O, I: NEXT I: NEXT XT
25060 SOUND 0,0,0,0:FOR I=0 TO 15:NEXT I:GOTO 11000
25100 FOR CHAR=0 TO 1:ENERGY(CHAR)=2000
25105 X(CHAR)=2+RND(0)*145:Y(CHAR)=3+RND(0)*55
25130 A(CHAR)=X(CHAR)+4:B(CHAR)=Y(CHAR)+1
25135 NEXT CHAR
25140 IF ABS(X(0)-X(1))<9 OR ABS(Y(0)-Y(1))<20 THEN GOTO 25100
25150 FOR CHAR=0 TO 1:GOSUB 22000:NEXT CHAR
25190 RETURN
26000 RETURN
26200 COLOR 1:PLOT X(CT)+4,Y(CT)+1
26201 FOR XT=40 TO 0 STEP -3:FOR I=0 TO 1:COLOR I:GOSUB 26250:FOR YT=0 TO 5:NE
XT YT: SOUND 0,0,0,0
26203 FOR DL=0 TO 5:NEXT DL
26205 SOUND 0,XT,12,8:NEXT I:NEXT XT:RETURN
26250 X=X(CT):Y=Y(CT)
26252 PLOT X,Y+1:PLOT X+8,Y+1:PLOT X+4,Y-1
26260 PLOT X+3,Y+1:PLOT X+5,Y+1
26299 RETURN
27000 SCORE(CHAR)=SCORE(CHAR)+500*LIVES(CHAR)
27010 IF SCORE(CHAR)>HIGH THEN HIGH=SCORE(CHAR)
27020 GRAPHICS 18
27030 POSITION 5,1:? £6; game over
27040 POSITION 6,3:? £6; PLAYER ;CHAR+1
27050 POSITION 6,5:? £6; "IS CHAMP"
27060 POSITION 2,8:? £6; score : "; SCORE (CHAR): FOR XT=0 TO
27070 FOR I=0 TO 250 STEP 7:SOUND 0,I,10,8:POKE 710,I:NEXT
27071 NEXT XT
27999 POP :POP :GOTO 10000
```

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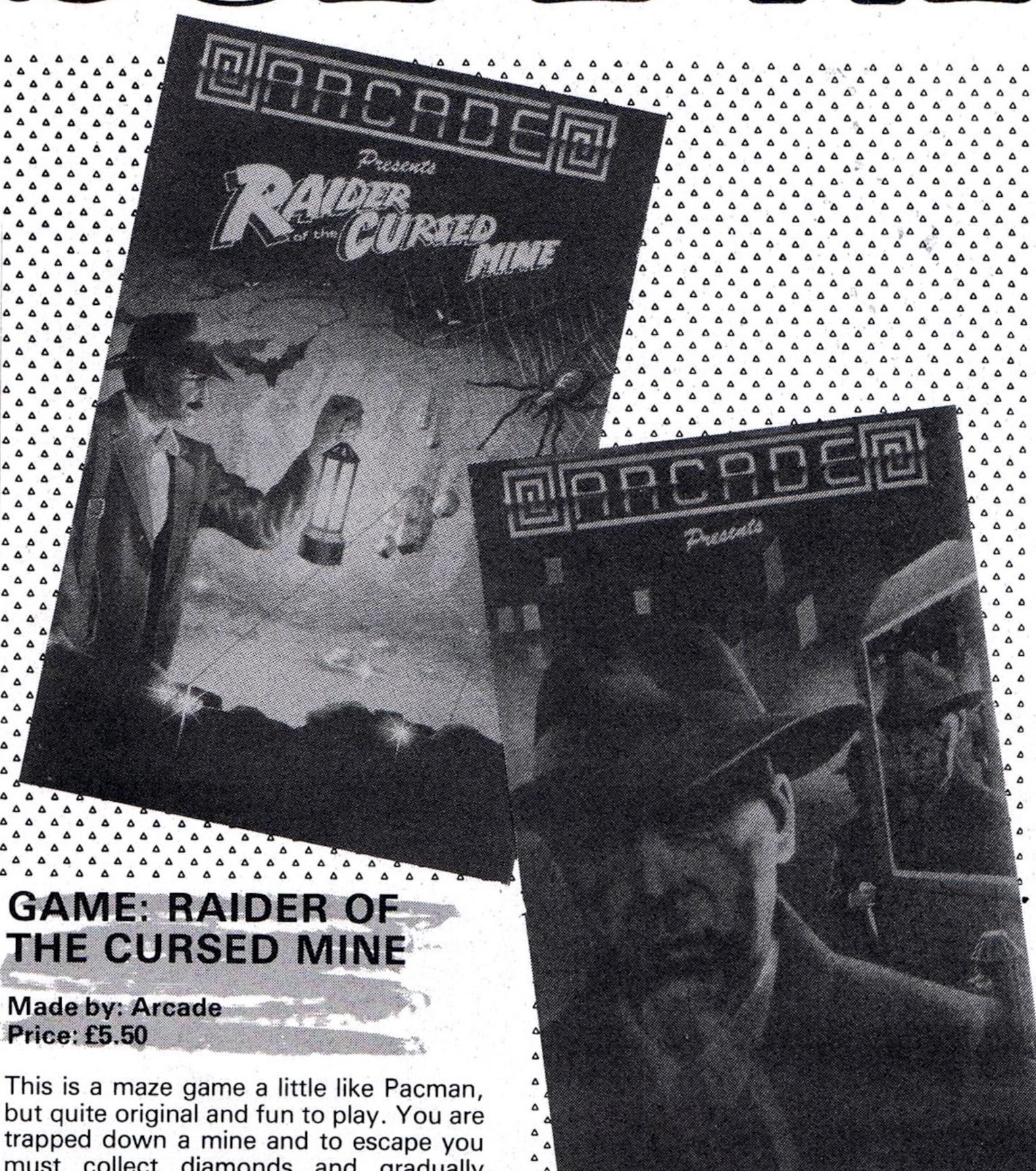


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# SOMWAJE.



This is a maze game a little like Pacman, but quite original and fun to play. You are trapped down a mine and to escape you must collect diamonds and gradually move up the levels, having been reqarded by an increase in level and a lamp when all the diamonds on one level have been collected.

Easy. Well, it would be, were it not for the trolls, the bat, the ghost and the spiders. Trolls drop boulders on you, which is not very healthy, bats steal all your treasure, and ghosts and spiders do unspeakable and terminal things.

You travel across the screen horizontally by walking, and vertically through a choice of three lifts. Each time you attempt to recover a diamond you must choose a level without ghost, bat or spider, and time your journey so that it is boulder-free. So not only is arcade dexterity needed but a degree of strategy is also involved. This is an interesting variant and well thought out. I could find no bugs in the program though I quickly discovered a slight flaw in design which makes play rather easier than it should be. I won't tell you what it is, because getting there is half the fun. . . .

## GAME: THE DETECTIVE

Made by: Arcade Software Ltd Price: £5.50

This game has you playing the part of a brave detective who must make his way through 'dagger alley'.

You are attacked by different waves of robots, helicopters, aeroplanes and spaceships, to mention but a few which

increase with speed as you kill them off. To top this there is also a mad dog that chases you across the bottom of the screen, if he catches you before you can escape your score is reset back to nought. In addition you are attacked by a row of tyres, which collect on the screen and descend in an attempt to crush you. These are immune to your fire and must be avoided.

In all, there are twenty-five levels to cope with, nearly every level introduces a new type of object to combat, although their formation and movement does not differ much. On reaching the final level you must attempt to open a safe by guessing its combination (a number between 1000-9999).

The game loaded first time without problem and is compatable with Kempston and AGF joysticks. The high score is recorded but unfortunately the players name is not. The graphics and sounds are not exactly exciting but the game proves to be addictive. Overall its' a game of fairly good quality but don't be fooled by the title, it's just another version of invaders. Fun to play but by no means a classic

#### GAME: GALAXIANS

Made by: Artic Software Price: £4.95

This is a good version of a great game. The original contains some of the meanest, noisiest aliens around — this reproduction does not let the original down.

Keys are well chosen, the left/right keys being well away from the fire and reset keys. Hi-res graphics are a very good feature of the Spectrum — and are only rarely exploited to the fullest by commercial software: Artic, though, make full use of them is in this fast, smooth game — no jerky movement at all.

The sound is surprisingly good — especially where amplified — and really moans as the aliens scream down, twisting and turning towards you. A nice touch is the "loop the loop" that all the Galaxians do after each "bombing mission." The actual graphic characters — especially the laser base — are almost identical to the arcade original's, and are very colourful. Nine skill levels are also available — but I strongly recommend that you start with the first!

Also available is a two player option — surprisingly rare on most Spectrum games. Minimal instructions are needed, but adequate are provided, and the game loaded first time. When compared with similar games at several pounds more money, this game is excellent value for money, and is a must for your software library.

#### **GAME: CAMELOT**

Made by: Cases Computer Simulations Price £5.50

Camelot starts with a copyright notice with dire warnings for any would-be software pirates. The writers need not worry as copying this tape is hardly worth the effort.

The game is set in medieval England where you have just been deposed from your rightful throne. The object is to roam the countryside with faithful warriors trying to collect enough treasure to ensure that you can reign the crown. At every move a rudimentary map is displayed with just over a dozen locations shown. When a move is made the scene is depicted on the screen. The graphics are low resolution and crude and do not do justice to what the Spectrum is capable of. Besides there are only four scenes that are ever displayed.

Various situations may arise, such as bands of warriors attacking your party. Pressing the 'fight' option means you invariably win and may continue. You can but as your supplies are at various bazaars that are scattered around, the method for purchasing goods is, to say the least, tedious. The program responds (?) to single key entry but since it is written in BASIC is incredibly slow.

There are three levels ranging from pointlessly easy to impossibly hard. Well, the graphics are colourful (but no where near the standard of such masterpieces like 'The Hobbit') and the tape did LOAD first go. It may keep the kids amused for a few minutes.

#### GAME: STAR FIGHTER

Made by: Durell Software Price£5.50

A good, fast, action adventure game in which you play the part of Captain of an intergalactic starship on a mission to clear the Andromedan galaxy of alien intruders.

On your way you battle with alien ships and have to avoid collision with antimatter mines and planets as you work through each sector of space passing through star gates, refuelling as you go. You are armed with long range photon torpedoes and phasors and are provided with all the necessary energy status gauges and warning devices you could need. Skill level can be varied from 0 to 9.

The program is written in machine code and makes really excellent use of graphics and sound. The close range dog-fighting with alien ships is tremendous. I found the program entirely crashproof but had difficulty loading from tape at fast speed, not because of errors introduced but the initial signature at commencement of loading had been cut short. There were no problems at slow speed however.

Operation of the four cursor shift keys, space bar and on occasions the return bar

proved to be rather too difficult to match the speed of the game; it would be so much better with a joystick controller.

Supplied instructions were comprehensive. An excellent game for anyone who likes plenty of noise and excitement and very good value at the price.

#### GAME: A.B.M. CONTROL/CAVERN HUNT

Made by: Timeless Software Price: £4.95

A.B.M. Control is not an original game although it is a reasonable version of the arcade favourite Missile Command.

For those of you who don't know the game you have four cities to defend from a never ending stream of bombs, low flying missiles, etc. You have to explode them using joystick to control a cross located on the screen by pressing the fire button. With an option of 1 or 2 players, multi-level screens, it's quite addictive. managed to reach level 12. The screen colour changes and the level is displayed at the beginning of each successful screen you manage to clear.

Cavern Hunt loads in two parts, the first containing all the instructions for the game, in which you search out the wumpit, a creature who is invisible until he's shot with your arrow. The game takes place in a 3D maze with hazards such as bats that pick you up and drop you elswhere, slime pits and one or more wumpits. Clues are given as to whereabouts of the wumpits, and pressing the spacebar displays your footprints and any slime pits or bats you have encountered. An excellent game for the

#### **GAME: STORM ARROWS**

Made by: Dragon Data Price: £7.95

Storm Arrows is the second program from Dragon Data and the game is very fast and addictive. The idea is to shoot all the arrows on one level before going onto the next maze.

To do this you control a laser, moved with the joystick, blasting all enemies in sight. Not easy to do as a master arrow (?) drop eggs that hatch into more arrows as the game proceeds.

A well written machine code program with good graphics and a nice random colour change with each new screen. The only fault is the sound, arrows don't sound like that! Every Dragon owner should own this highly entertaining game.

#### GAME: ROBBER

Made by: Virgin Games Price £7.95

I found the cassette inlay much more exciting than the actual game. There is a promise of a three screen game, each with its own particular problems.

The first scene is a guarded room where you have to retrieve various objects, in-



jellyfish to overcome, before fending off

the man eating birds in the catacombs. Eventually the safe in the castle vault is at

your mercy.

With great expectations, I loaded the program and then found the whole thing to be very disappointing indeed. The graphics are small, fiddly and rather amateurish, while the movement is jerky and difficult to judge. The program was written in BASIC and then compiled, and the results fall far short of that which Spectrum owners have come to expect.

#### GAME: QUETZALCOATL

Made by: Virgin Games Price: £6.95

This strange-sounding program takes its name from a temple in which you have been cast by bandits.

The program is rather like a graphical adventure set in a three dimensional maze, with an excellently drawn screen display. The object is very simple to state but difficult to achieve . . . to survive. There are four levels in the maze with an intricate pattern of passageways. The only movements necessary are forward, turn left and turn right, and these are conveniently grouped together at keys 1, 2, and

Within this framework there are various distractions. Along the passageways

sets you a puzzle with only a 25% chance of success and survival. The movement between levels is by shafts — blue ones being safe while black shafts deplete your store of beads.

The action is fast and smooth, with completely accurate orientation as one moves through the maze. I found it original, challenging and fascinating.

#### GAME: PUZZLE PACK

Made by: Sumlock Price: £6.95

Sumlock puzzle pack consists of six games as follows:

Orbits — The object of Orbits is to land your ship — four of one shape in a line on the correct landing pool. To make the game slightly hard the landing pad moves continuously.

Knight's Move — the object is to land on all the squares in an eight by eight grid using the Knight's move (two squares one way and one another). You are not allowed to land on squares you have already been on.

Graphic Twister - Match the shape given by rotating your block of Graphics in various directions.

All of these puzzles use keyboard graphics not user defined and do not have very good sound.

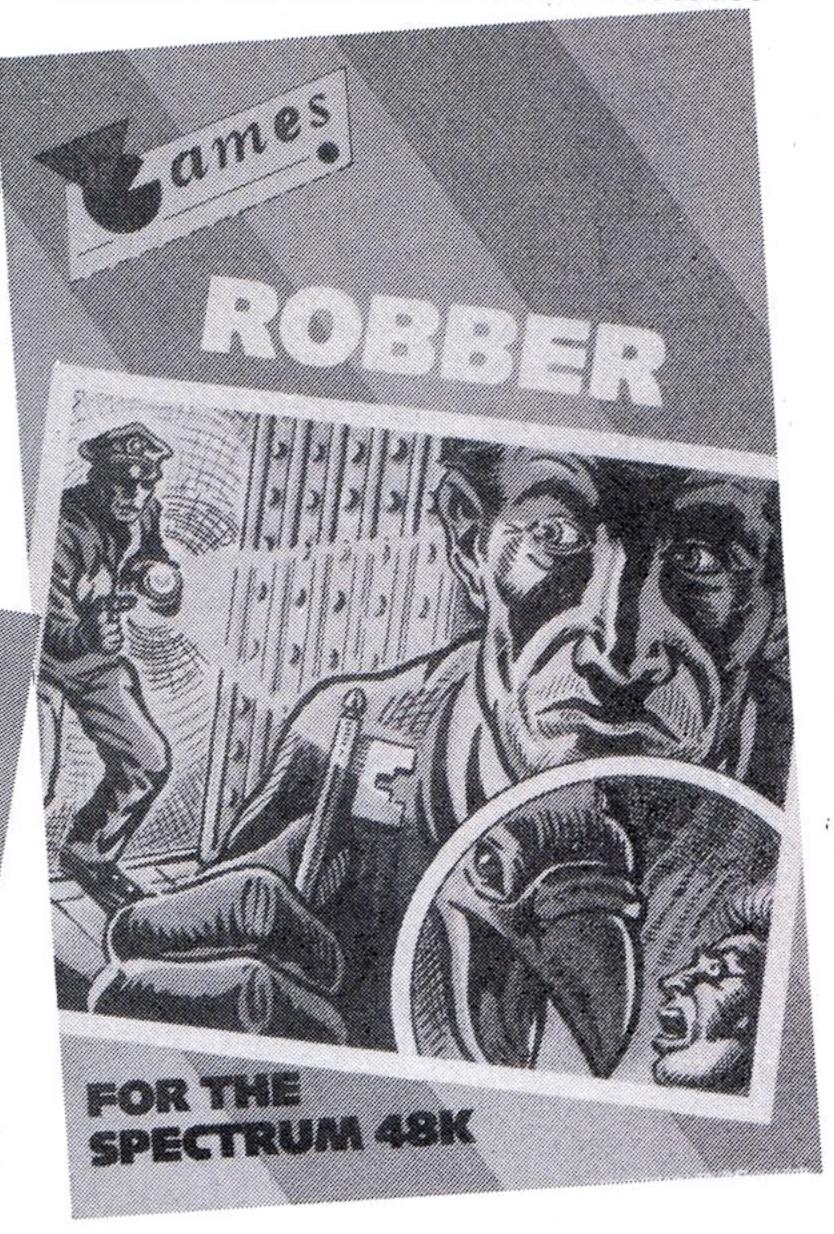
score possible with 25 moves.

Not suitable for anyone over the age of ten.

#### GAME: POOL

Made by: Bug-Byte Price: £5.95

This game is not actually a simulation of Pool, or Billiards or Snooker or any similar game, but uses the basic idea of those games to create a simplified version for the Spectrum. You only have six balls to pot, plus a cue ball, and all seven are the same colour. It seems a shame that the cue ball could not be a different colour. However the cue ball is distinct because



the other six are numbered.

You must try to pot all six, scoring ten times the number on the ball for each pot. However if you pot your cue ball the game resets and you must start again. You also have three 'lives' and lose a life for each successive run of three misses. When all three lives have gone, the game starts again.

The game has a two-player option in which both players try to pot the same six balls. However, unlike Pool proper, play does not pass to the other player when you miss your pot, but when three lives have been lost. This means that a player can take two free strokes to line up the cue ball before attempting your pot, so trying to snooker your opponent is a waste of time.

think a game which attempts to simulate a real game should do a better job than this.

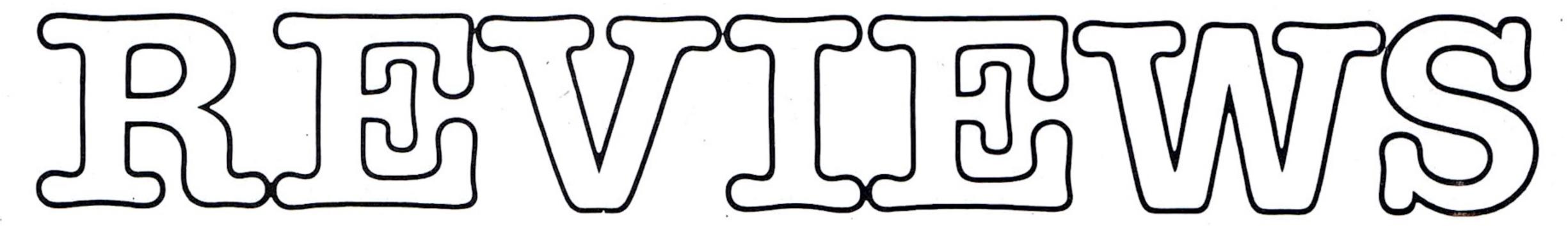


groups of beads are sprinkled which will be useful later in the game. There is also a guardian on each level, either benevolent or not. For instance, Huyitzilopochtli will give you a compass and map, while Tialoc

Rainbows — Complete the rainbow by typing in the next three letters of a series of letters.

Slide Puzzle — Move blocks around by sliding them into the empty space — to make a set pattern. Version of traditional hand-held puzzle.

Digits - Make your way around a screenful of numbers getting the highest



GAME: BUGABOO (THE FLEA)

Made by: Quicksilva Price. £6.95

Perhaps the greatest compliment I could pay to this superb game is that it ranks alongside Jetpac and Penetrator in my collection. Like many of the best programs, it is beautifully simple in concept, yet delightfully difficult in practice.

After an entertaining loading sequence, the program autoruns to a distant planet and reveals the hero in the most unlikely guise of a flea! This flea, in the introductory animation, leaps around on the surface of the planet and then falls down a deep shaft to a rocky base. The simplicity of the program is that you have to guide our itchy friend back to the surface.

However (there's always a 'however') there are two main problems, one being to avoid the superbly animated monster which prowls around the screen and which appears to be very hungry. The other main problem is in finding a successful exit so that the flea actually lands safely on each ledge, rock or grass clump. There is an excellent scrolling facility which allows a glimpse of what lies above, below or to the side.

The speed, colour and animation of this program are superb, and I thoroughly recommend it in anyone's collecton. It is delightful not to be zapping anything!

## GAME: KILLER CAVERNS

Made by: Virgin Games Ltd. Price: £5.95

This is an adventure game in which "poor helpless Harold" has to venture through a system of caverns avoiding the deadly perils within to find a number of dispersed pieces of a ladder. With these he can eventually reach the treasure hidden at the bottom of awell.

Written in BASIC the program uses a colourful although slow moving display and makes appropriate sounds as you venture through the game. The low resolution graphics made up from redefined lower case letters are adequate but not very exciting. The program is completely devoid of REM statements but for anyone interested is straightforward to LIST, there being no devices to protect it from intruding eyes.

In fact this was just as well because I had extreme difficulty in LOADING the program from tape; each time I tried I got syntax errors in a variety of places. Even-

tually I decided this was due to a low recording level on the tape and had to work through the LISTING correcting errors before I could bet the program to RUN. Lets hope Virgin Games get this right for production.

The program is simple to use, requiring only left and right curser keys and the instructions are adequate. Value for money was considered somewhat less than average as for me the game quickly lost interest.

## GAME: SUPER SKRAMBLE

Made by: Terminal Software Price: £9.95

This is, if you haven't guessed it already

— a version of the arcade game scramble.

The program quality is overall good but overdoes it slightly on the sound side. It plays tunes at the beginning of each attempt using all three voices excellently.

The game is played using the joystick control. When you press fire bottom on the joystick you both fire the laser and drop a bomb, which with a bit of practice is very very handy.

The pricing of this game is warranted with its quality.

There isn't much you can say about such a popular game as this, although left to its own devices the frame will show the whole 'Tunnel' to the very end. A help to see where you've got to go.

There are no instructions supplied with the game apart from those on the screen. As usual no-one has found a run/stop disable and this game is no exception.

A game which would keep the youngster programmers — and some older ones too — happy for hours.

#### GAME: CRAZY KONG

Made by: Interceptor Software Price: £5.95

I cannot confess to liking Crazy Kong and this package did not do anything to raise my interest.

The program is based on luck I reckon, as when you jump over the barrel — clear it on the way to the happy landing — 'bang' — your dead for no apparent reason!

If using a joystick — beware — the game disregards diagonal values; the keyboard layout for people without joysticks must have been designed for Zaphod Beeblebrox!

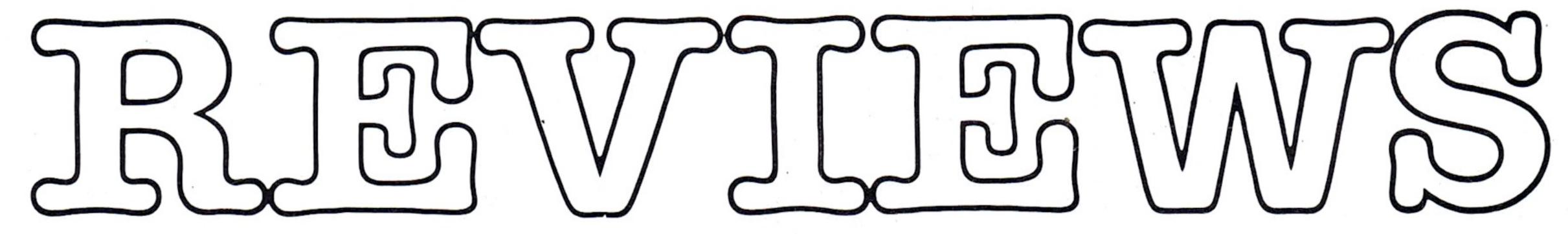
The game claims to be written in machine code but after a tap on the non/stop key quite an extensive program can be listed?!

The game kept me occupied for two days, after that I, and everyone else trying, decided that sheet two perhaps was a bit too higher 'luck' standard for us.

Most of the graphics are made up of sprites, even Kong who seems a bit squared off at the edges.

The instructions are the bare minimum

— how to move your little man and battle
your way through the screens.



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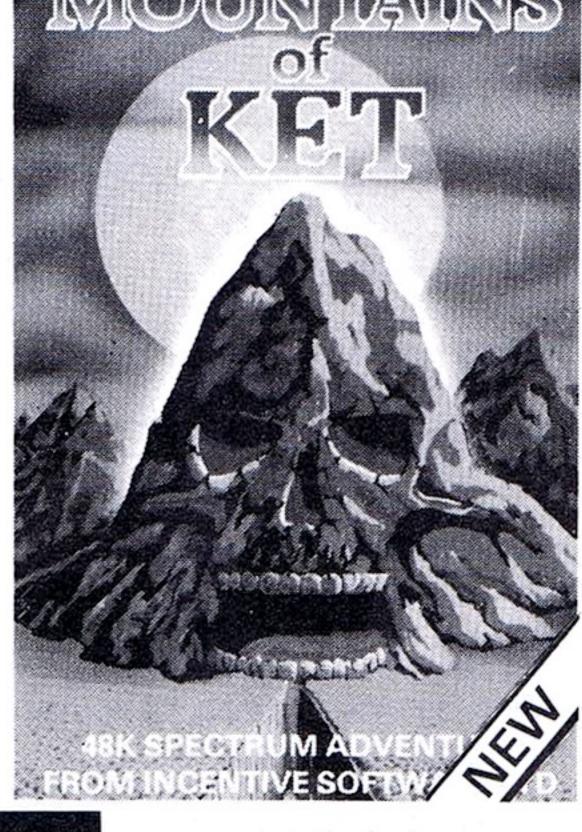
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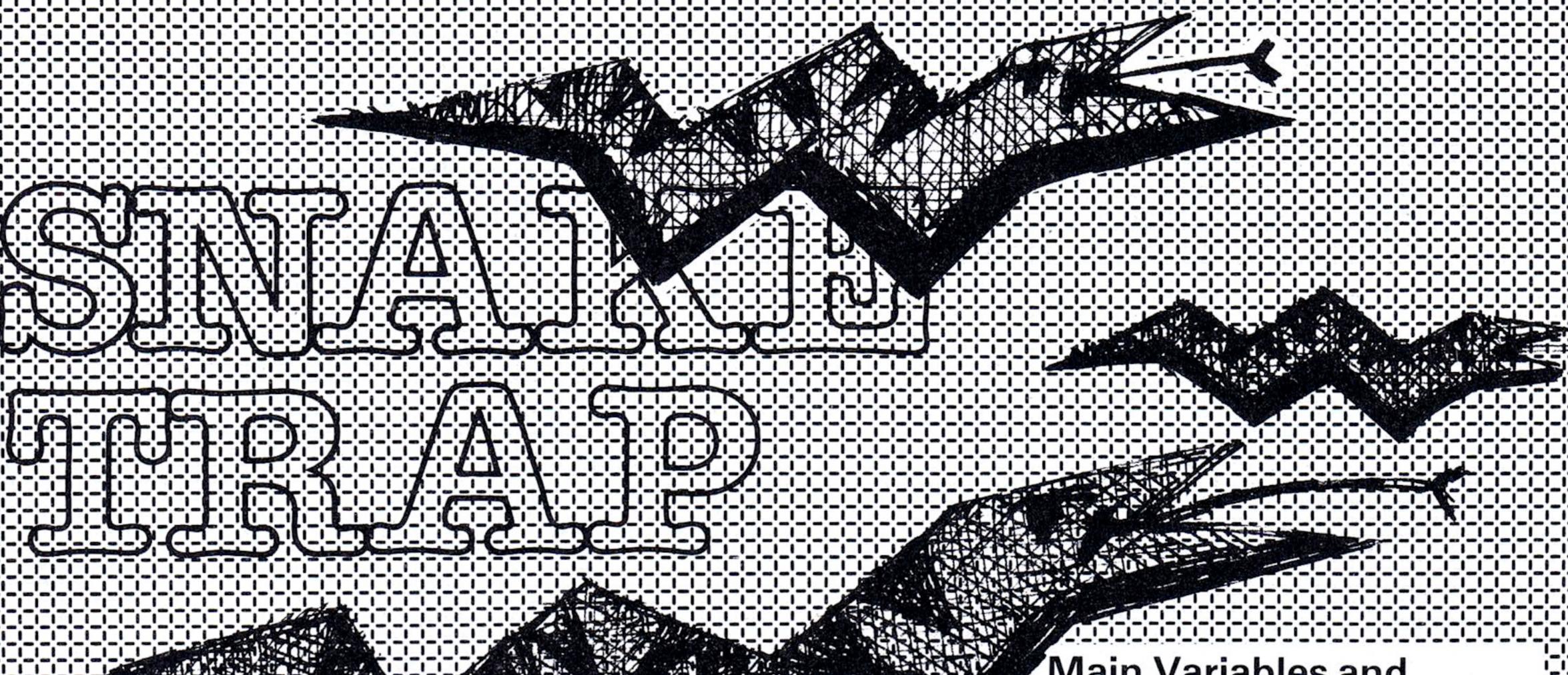
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INCENTIVE SOFTWARE LTD., 54 London Street, Reading RG1 4SQ. Tel: Reading (0734) 591678



#### By Brian Philips

-:-:-:

This is a game written for the Unexpanded VIC 20. All you have to do is guide a i snake around a maze, eating dead rats. The more rats he eats the longer he gets, ! and the point value of the rats increases. Sounds simple? Unfortunately there's a catch. The rats are bait! Nine monsters lurk in the dens which make up the maze, and their aim is to catch the snake. If a monster jumps on you, or you run into a monster, the game is over.

> The snake is controlled by keys S,X,/, and . but the snake will only turn if there is ! a clear path ahead.

#### RUNdown

The program is divided into two parts. SNAKE TRAP defines the characters and gives the instructions, and MONSTERS LAIR contains the game. The overall structure of the main program is as follows.

Line	Action		
10-140	Initialises.		,
150-400	Draws maze.		
410-580	Moves snake.		
590-850	Moves monsters	and	drop
	rats.		
860-880	Scoring subroutine	Э.	

920-970 Game over/start new game.

#### Main Variables and Constants

Rat.

Snake body. C3-C6 Snake head. Monster. Maze.

#### Colours

CS Snake colour. RCRat colour. Monster colour. Maze colour.

#### Miscellaneous

Current snake character. X%(I),Y%(I) Monster position. DX%(I),DY%(I) Monster direction.

SC Score. Length snake. SL%(I) Snake position.

A%(I) Monster central posi-

```
10 POKE36869,255
     20 DIMSL%(20)
     30 CS=0:RC=6:MC=4:PC=2
     40 POKE36879,250
     50 FORI=1T09:READA%(I):NEXT
     60 FORI=1T04:READM%(I),C%(I):NEXT
    70 PRINT"(XX"TAB(11)"HIGH";HH
80 FORI=1T09
    90 XX(I)=0:YX(I)=0:DXX(I)=1:DYX(I)=1:M=0:SC=0
```

```
510 BD=N-1:IFBD=0THENBD=LN-1
520 TL=N+1:IFTL=LNTHENTL=1
530 \text{ SLN(N)=SLN(BD)+M}
540 POKESL%(TL),32:POKESL%(BD),C2:POKESL%(N),SN:POKESL%(N)+D,C8
550 IFPK=C1THENGOSUB860
560 IFPK=C7THEN920
570 IFIN=4THENLN=LN+1:IN=0
580 IFLN=21THENLN=20
590 I =INT(RND(1)*9)+1
600 IFI /2=INT(I/2)THENGOTO 640
```



THE PYRAMID is an arcade style game which has a very adventurous feel to it.

The Pyramid contains 120 chambers on 15 levels. In order to get from one chamber to another you must fight off the indigenous aliens to collect an energised crystal which will neutralize the force field quarding the two exits.

The Pyramid is inhabited by a total of 60 wierd and exotic alien types, all of which are beautifully animated. You will meet a whole variety of demons, droids, insects and monsters, with a sprinkling of the more unusual, the extra-terrestrial tweezers, galactic strawberry, cosmic claw, mutant eye, plus a whole host of entities that defy rational description. You will no doubt invent your own nicknames.

You proceed to explore the Pyramid from top to bottom with the difficulty generally increasing with the depth of level. Depending on the choice of exit from each chamber you are likely to have a different game every time you play.

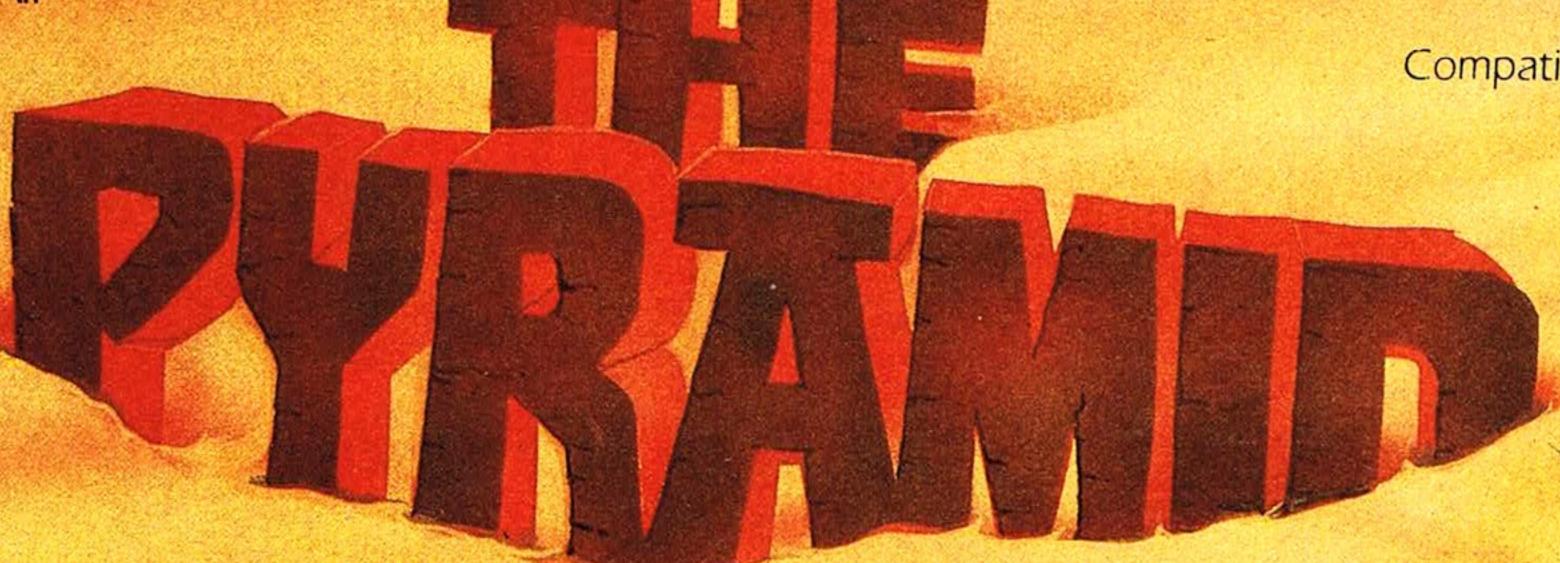
Apart from the challenge of trying to achieve the highest score possible the pyramid contains a number puzzle to solve. The more chambers you successfully visit the more information is gathered to enable you to discover the secret numbers of the pyramid. The puzzle won't take you a few days to solve, it will probably take you a few months.



This is "ZIGGY". He is shown above in his exploratory capsule and is a true representation of the on screen graphics. You have total control over his movements as you explore the many chambers of "THE PYRAMID".

FANTASY SOFTWARE is available from W.H.Smiths, John Menzies and Computers For All

Compatible with all leading joysticks.



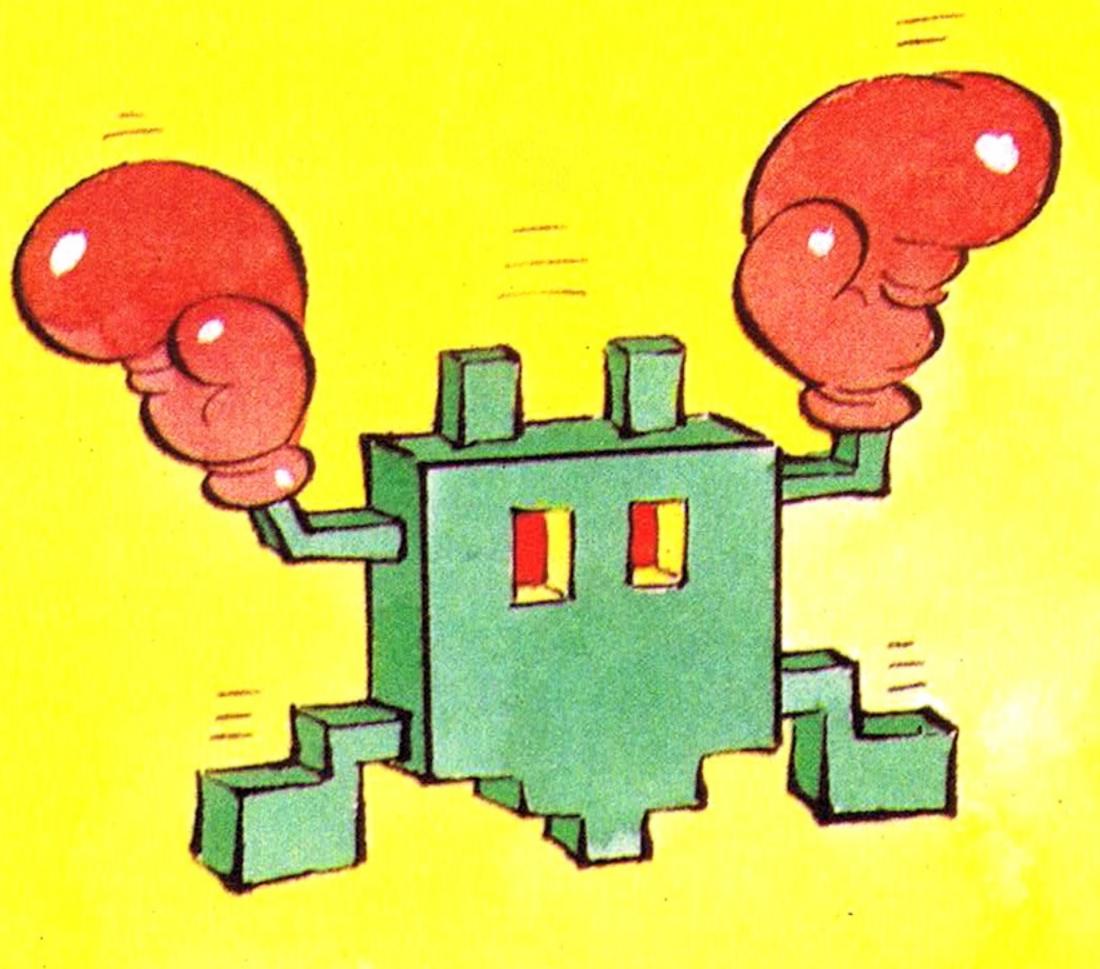
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Although this is another version of the over-worked game of Space Invaders our version is well-worth the effort of typing it into your Commodore 64.

Despite the machine code contained in the program listing and the length of it you'll find this game displays many of the features of the original game. The graphics are great although awkward to achieve because the CBM 64 must be screen POKEd. But don't let that deter you from trying it out. Those long hours of keying will be worth it in the end.

#### Rundown

Action Line

Sets up the CBM 64 to look 90

like a PET screen.

The high scores and names are 100-220 POKEd into this part of the

> program so it is important that you do not change the length of any of these lines, although you can cheat by changing the

> names (as long as you always use 16 characters).

This is a delay. The GET A\$ is 230 used to slow down the loop. It

can be omitted but it has the effect of clearing the keyboard

buffer.

Checks to see if the machine 240 code has been POKEd in and if

so runs the game.

Gives you the option of poking 250-320

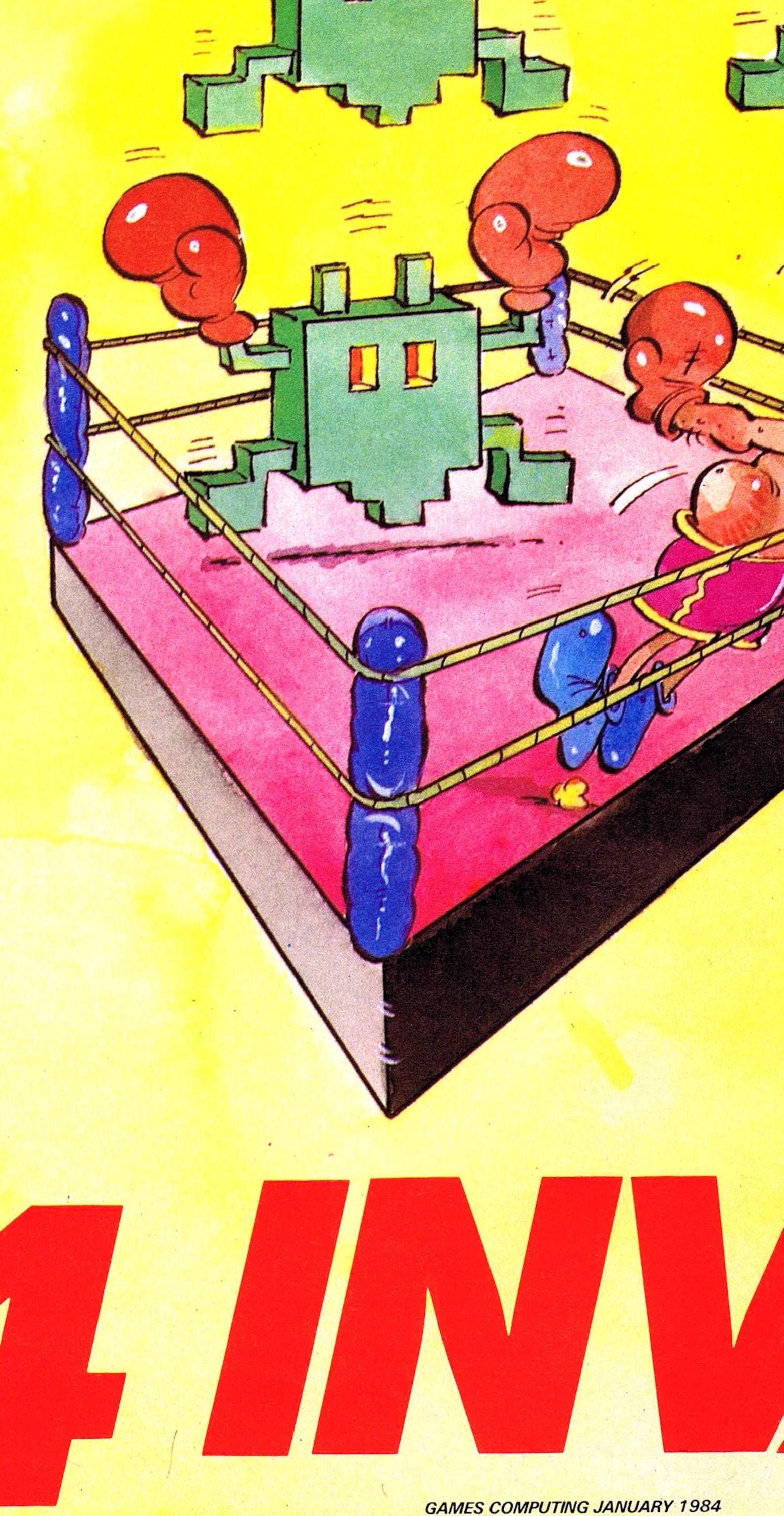
in the game from data or

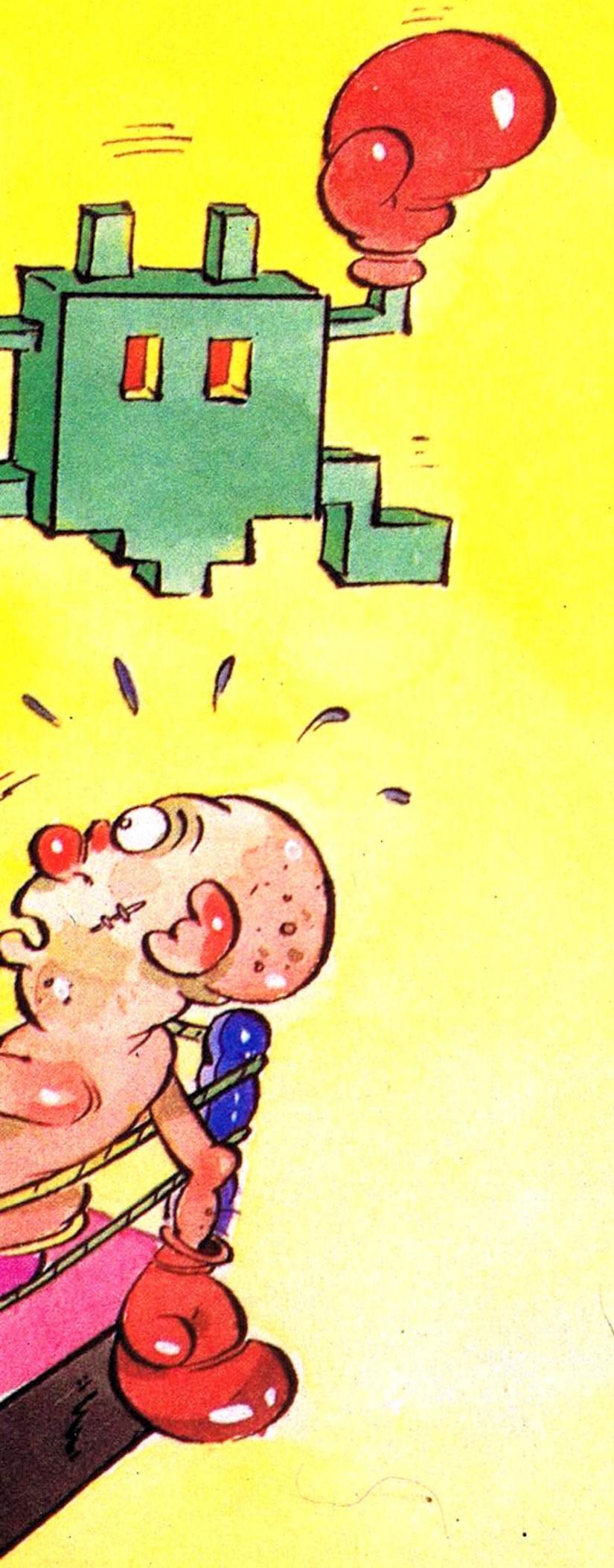
loading from tape.

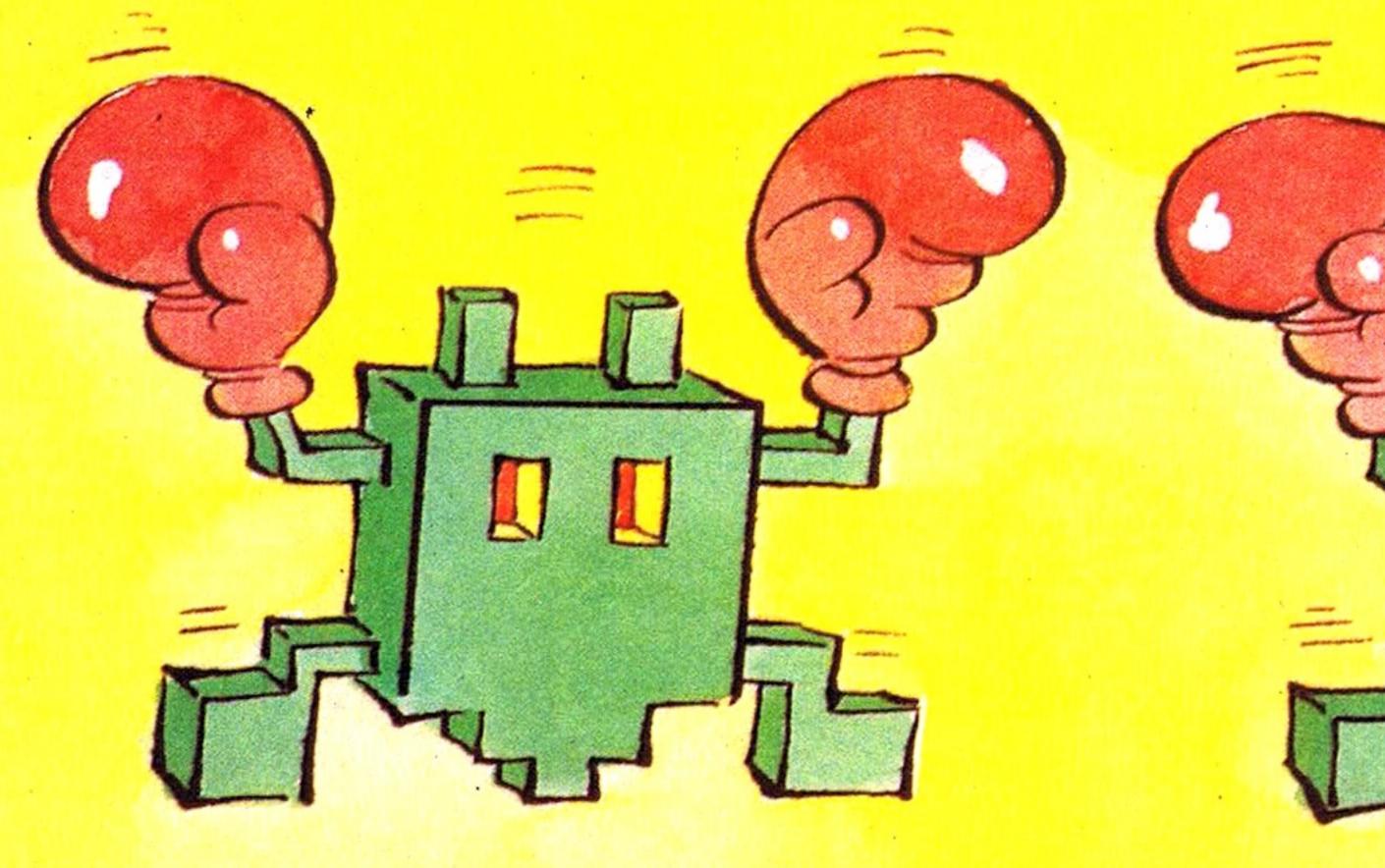
Sets upper case. 330

Sets up the data for and draws 340-520

the title page.







# RUNS ON COMMODORE 64

A delay to allow you to read the title page.

540 Clear keyboard buffer.

Set lower case.

2745

2650 List of characters for explosion and defences. These are poked

into the machine code.
C draws the space invaders on

the screen.

2730-2790 Puts information on screen from BASIC.

2800-2910 Modify data and machine code

program from BASIC.
2930-2980 Set up shape and strength of defences and position and

print on screen.

2930-2998 Print multicoloured to screen to set up colour maps. The string is 2995 must be always the same length but you can change the colours you use to suit your television.

3050-3730 End of game and High Score

routines.

3720-3815 INPUT level routines.

3830-3980 Modify machine code program to make it harder on the higher

levels.

4000-4030 Move the screen so that it cannot be seen, fill it with different coloured hashes to alter colour map, then put screen back at 32767 — line 4020 controls the colours on the screen. These can be changed to improve the quality of the display on different monitors.

#### **About the Program**

The program loads in two parts. A BASIC program (Program 2) and a machine code program (M/C 64). This is because the CBM 64 IS machine code is very difficult to access so another BASIC program (Program 1) has been written to create the machine code. I advise you to save Program 1 in sections as you type it in, in case you lose any data.

When you have finished typing in the program DO NOT RUN it. Save it first on tape or disc, then type RUN. A number should appear on the screen counting from about 20,000 upwards. If you have typed the listing in correctly a message will appear giving you the option of saving the machine code from memory, saving the BASIC program or loading Program 2.

Program 2 is a normal BASIC program requiring the machine code to be in memory in order to run. Otherwise it will not load from tape.

There are two ways of RUNning 64 Invasion. The first is to load the RUN Program 1, then take option 3 and type Y "are you sure" prompt. The second is to have M/C 64 on tape, load Program 2 and let this load M/C 64. While the program is setting up you may get a load of odd characters filling the screen but don't worry about this, it's quite normal.

A tape of this program is available from *Games Computing*, Invaders Tape, 145 Charing Cross Road, London WC2H 0EE. Price £3.50.

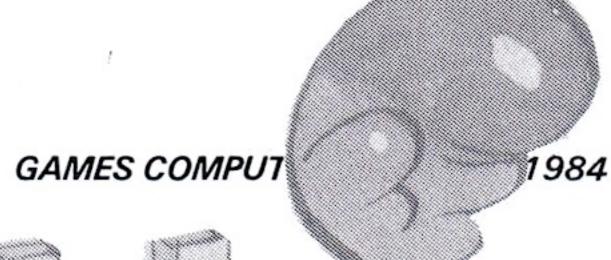


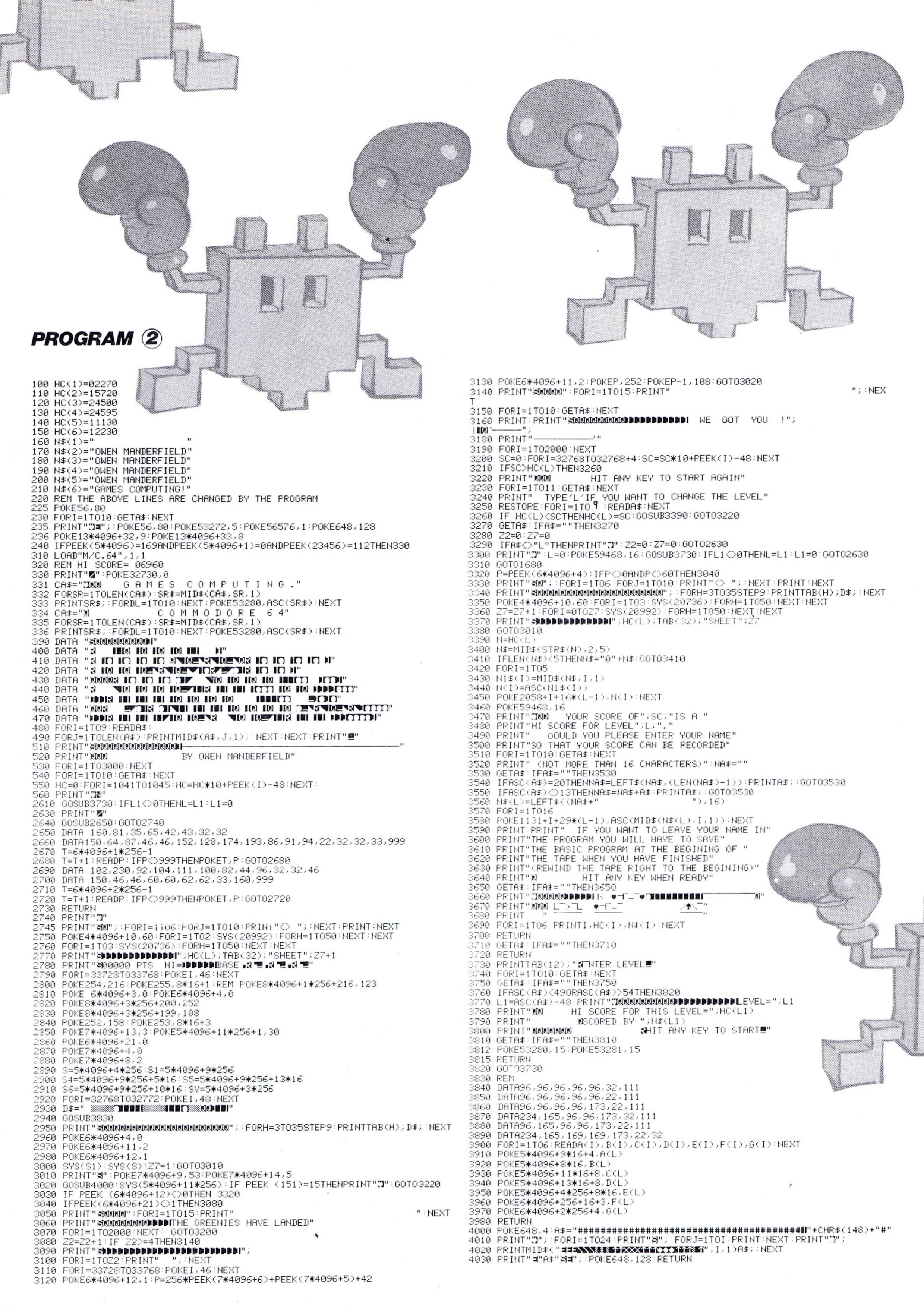
PROGRAM (1) 100 P=5\*4096:PRINT"LOADING..." 110 READ A\$:IFA\$="XXX"THEN200 120 FORI=0T07 130 H=ASC(MID\$(A\$,I\*2+1,1))-48:IFH>9THENH=H-7 140 L=ASC(MID\$(A\$,I\*2+2,1))-48:IFL>9THENL=L-7 150 POKEP+I, H\*16+L: PRINTP+I"" : NEXT: P=P+8: GOTO110 200 IFP+I<>23664THENPRINT"INSUFFIENT DATA":STOP 205 PRINT" THIS PROGRAM HAS NOW TURNED THE DATA" 210 PRINT" THAT YOU HAVE SPENT HOURS TYPING IN" 220 PRINT" INTO A MACHINE CODE PROGRAM WHICH IS " 230 PRINT" USED BY PROGRAM 2 TO PLAY " 240 PRINT" THE GAME. IN FUTURE YOU WILL NEED THE " 250 PRINT" DATA ON TAPE IN THE FORM OF THE MACHINE" 260 PRINT" CODE PROGRAM LOADED BY LINE 310 OF " 270 PRINT" PROGRAM 2. IT WOULD ALSO BE WISE TO " 280 PRINT" SAVE A COPY OF THIS IN CASE YOU LOSE" 300 F=0:PRINT" THE MACHINE CODE.":PRINT 320 PRINT" TYPE 1 TO SAVE AS MACHINE CODE FILE" CALLED"CHR\$(34)"M/C.64"GHR\$(34) 340 PRINT" 360 PRINT" 2 TO SAVE AS A BASIC PROGRAM " CALLED"CHR\$(34)"DATA"CHR\$(34) 380 PRINT" 3 TO LOAD PROGRAM 2 FROM TAPE" 400 PRINT" 420 GETS\$:IFVAL(S\$)<10RVAL(S\$)>3THEN420 440 ONVAL(S\$)GOSUB500,550,600 500 POKE43,0:POKE44,5\*16:POKE45,13\*16:POKE46,5\*16+2:SAVE"M/C.64":F=1 520 PRINT"3":GOTO320 550 POKE43,1:POKE44,8:POKE45,152:POKE46,47:SAVE"DATA":F=1 570 PRINT"D":GOTO320 600 IFFTHEN700 610 PRINT"YOU HAVE NOT SAVED A COPY OF THIS DATA" 620 PRINT" IF YOU CONTINUE WITH THIS OPTION YOU " 630 PRINT" WILL LOSE THE BASIC PROGRAM AND MAY" 640 PRINT" NOT BE ABLE TO SAVE THIS DATA LATER" 650 PRINT" DO YOU WISH TO LOAD PROGRAM 2 (Y/N) 660 GETR\$: IFR\$=""THEN660 670 IFR\$="N"THENPRINT"∭":GOTO320 680 IFA\$="Y"THEN700 690 GOT0610 20810 DATAA920910FA029EAA5 700 LOAD"PROGRAM 2":END 20820 DATA10C983F00160A50F 20000 DATAA9008DE783A92985 20830 DATAC9BFB001604CC05A 20010 DATA0FA9808510A003E6 20840 DATAB10FC96CF013C97B 20020 DATA0FA50FD002E610B1 20850 DATAF00FC97CF00BC97E 20030 DATA0FC920F0F2C93CF0 20860 DATAF007A93C910F4CD1 20040 DATA034C3050A93E910F 20870 DATA52A9A0C8EA910F88 20050 DATA88204050C84C0F50 20880 DATAEA910F20505AA001 20060 DATAC93ED006A920910F 20890 DATAA920910FA029EAEA 20070 DATAD0D5C900D0D160AA 20900 DATAEAA5100983F00160 20080 DATAB10FC96CF013C97B 20910 DATAA50FC9BFB001604C 20090 DATAF00FC97CF00BC97E 20920 DATAC05AA9008D2880A9 .20100 DATAF007A93C910F4C67 20930 DATAE6850FA9838510A0 20110 DATA50A9A0C8EA910F88 20940 DATA01C60FA50FC9FFD0 20120 DATAEA910F20505AEAA5 20950 DATA02C610B10FC920F0 20130 DATA10C983F00160A50F 20960 DATAFOC93CF0ECC93EF0 20140 DATAC9BFB001604CC05A 20970 DATAE8092EF0E40966F0 -20150 DATAAAAAD0C60D00160 20980 DATAE0C998D0054820B0 20160 DATAA5C5C92AF04AC932 20990 DATASB68EAEAEAEAEA 20170 DATAF026A900F00260AA 21000 DATAEAEAC916D00FA920 20180 DATAAD8D02F0EAEAA920 21010 DATA910FA02920F055A0 20190 DATA8D136020A05860AA 21020 DATA014CF152EAC900F0 20200 DATAAAAAAAAAAAAAAA 21030 DATA0E8D0560205055AD 20210 DATARARARARARARARA 21040 DATA0560910F4CF15260 20220 DATAA9258D136020A058 21050 DATAAAAAAAAAAAAAAA 20230 DATAA9238D136020A058 21060 DATAAAAAAAAAAAAAAAA 20240 DATA60AAAAAAAAAAAA 21070 DATAAAAAAAAAAAAAAAA 20250 DATARARARARARARARA 21080 DATAGGAAAAAAAAAAAAA 20260 DATAA91B8D136020A058 21090 DATAAAAAAAAAAAAAAA 20270 DATAA91D8D136020A058 21100 DATAAAAAAAAAAAAAA 20280 DATA60AAAAAAAAAAAA 21110 DATASD0460A9038D0660 20290 DATARARARARARARARA 21120 DATACEA75620A356EEA7 20300 DATAAAAAAAAAAAAAAA 21130 DATA56EAEAEAEAEAEA 20310 DATARAAAAAAAAAAAAA 21140 DATAA000A9AE91FEC8C8 20320 DATAA9008D2880A9E685 21150 DATA91FEC8C891FEA001 20330 DATA0FA9838510A001C6 21160 DATAA99891FEC8C891FE 20340 DATA0FA50FC9FFD002C6 21170 DATAEE206060AAAAAAA 20350 DATA10B10FC920F0F0C9 21180 DATAAAAAAAAAAAAAAAA 20360 DATA3EF0034C3351A93C 21190 DATAAAAAAAAAAAAAAA 20370 DATA910FC8204251884C 21200 DATAAAAAAAAAAAAAAAA 20380 DATA0F51EAC93CD006A9 21210 DATAAAAAAAAAAAAAAAA 21220 DATABABABABABABABA 20390 DATA20910FD0D2C900D0 20400 DATACE60B10FC96CF013 21230 DATARARARARARARARA 20410 DATAC97BF00FC97CF00B 21240 DATABAAAAAAAAAAAAA 20420 DATAC97EF007A93E910F 21250 DATABABABABABABABA 20430 DATA4C6851A9A088EA91 21260 DATAAD0460D00960AAAA 21270 DATARARARARARARARA 20440 DATA0FC8EA910F20505A 20450 DATAA510C983F00160A5 21280 DATAA5FFC980D014A5FE 20460 DATA0FC9BFB001604CC0 21290 DATAC94FB00EEAEAA9A0 20470 DATASAAAAAAAAAAAAA 21300 DATA91FEA9008D046060 21310 DATAEAEAAD0460D00160 20480 DATAAAAAAAAAAAAAAA 20490 DATAAAAAAAAAAAAAAAA 21320 DATAA002B1FEC97ED018 21330 DATAA92091FEA5FE38E9 20500 DATAAAAAAAAAAAAAAA 20510 DATAAAAAAAAAAAAAAA 21340 DATA28B002C6FF85FEA9 20520 DATACE0870F00160A903 21350 DATA7B8D006020005760 20530 DATA8D0870A9208D7780 21360 DATAC97CD018A92091FE 20540 DATAA027B94F80C9D1F0 21370 DATAA5FE38E92885FEB0 21380 DATA02C6FFA96C8D0060 20550 DATA0688C000D0F46099 21390 DATA20005760097BD005 20560 DATA5080A920994F804C 21400 DATAA97E91FE60C96CD0 20570 DATAB251AAAAAAAAAAA 21410 DATA05A97C91FE60A900 20580 DATACE0870F00160A903 20590 DATA8D0870A9208D5080 21420 DATASD046060AAAAAAAA 21430 DATABABABABABABABABA 20600 DATAA000B94F80C9D1F0 21440 DATAAD2060C9B0903018 20610 DATA06080029D0F46099 21450 DATAA58FEA6A9013A900 20620 DATA4E80A920994F804C 21460 DATASD2160A9D18D7780 20630 DATAE951AAAAAAAAAAA 21470 DATASD76808D75804CB1 20640 DATAA9008D2880A9E685 21480 DATA54A9018D2160A9D1 20650 DATA0FA9838510A001C6 21490 DATASD50808D51808D52 20660 DATA0FA50FC9FFD002C6 21500 DATA80A9208D206060AD 20670 DATA10B10FC920F0F0C9 21510 DATA2160D00420D05160 20680 DATA3EF0034C3552A920 21520 DATA20A05160AAAAAAA 20690 DATA910FA029206052A0 21530 DATAAAAAAAAAAAAAAAA 20700 DATA014C0F52EAC93CF0 21540 DATARAAAAAAAAAAAAAA 20710 DATA034C5552A920910F 21550 DATAAAAAAAAAAAAAAA 20720 DATAA02920A052A0014C 21560 DATABABABABABABABA 20730 DATAOF52AAAAAAAAAAA 21570 DATAAAAAAAAAAAAAAAA 20740 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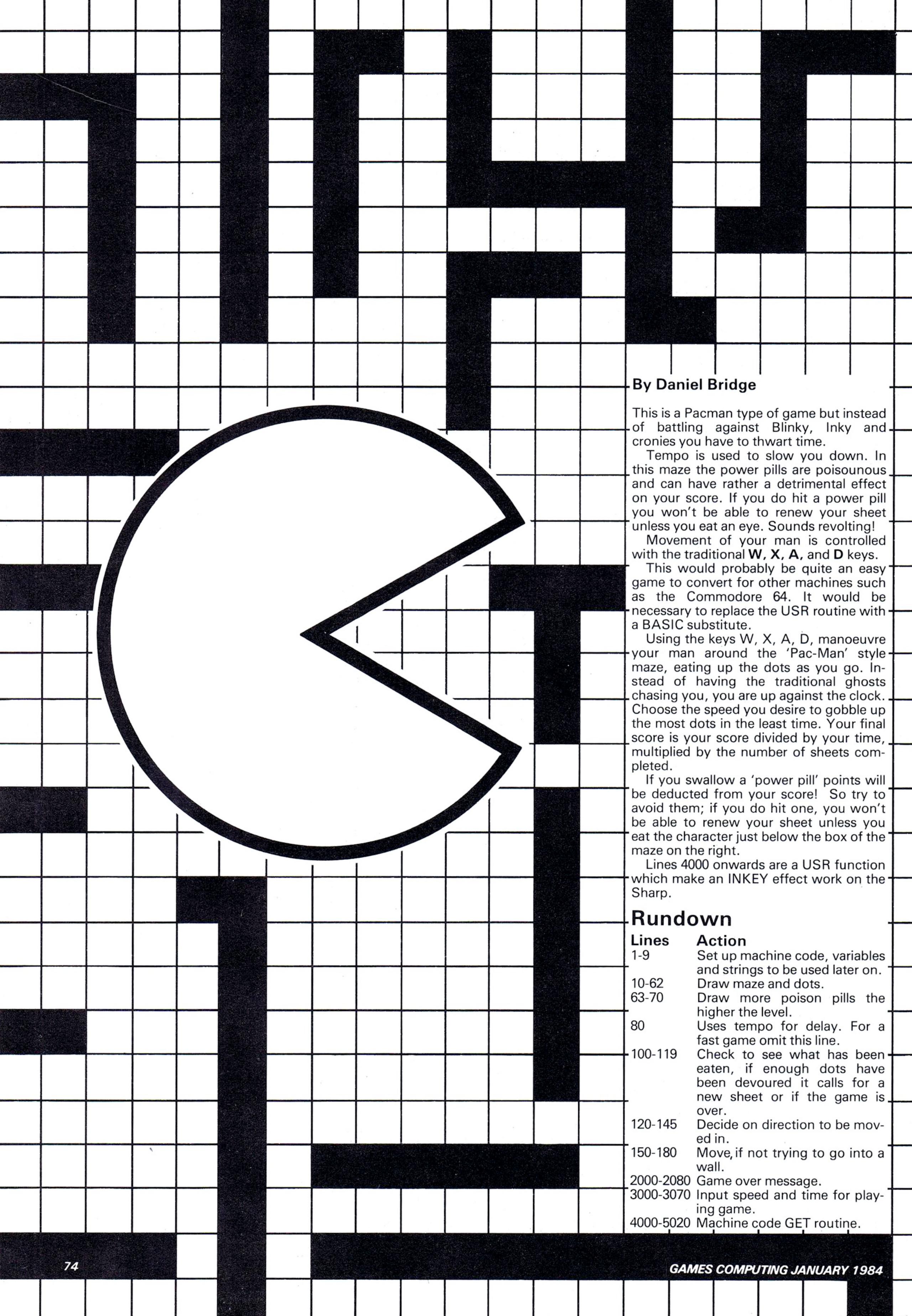
21640 DATAAAAAAAAAAAAAAA 21650 DATAAAAAAAAAAAAAAA 21660 DATAAAAAAAAAAAAAAA 21670 DATAAAAAAAAAAAAAA 21680 DATARAAAAAAAAAAAAAA 21690 DATAAAAAAAAAAAAAAA 21700 DATAA9FF8D5955EE5955 21710 DATAAD1761CD0560F005 21720 DATAC921D0F160EE5955 21730 DATAAD59558D6F55AD0B 21740 DATA618D056060AAAAAA 21750 DATABABABABABABABA 21760 DATABABABABABABABA 21770 DATAAAAAAAAAAAAAA 21780 DATABABABABABABABA 21790 DATAAAAAAAAAAAAAA 21800 DATAAAAAAAAAAAAAA 21810 DATARARARARARARAA 21820 DATAAAAAAAAAAAAAAA 21830 DATAAAAAAAAAAAAAAA 21840 DATAAAAAAAAAAAAAAA 21850 DATAAAAAAAAAAAAAA 21860 DATAAAAAAAAAAAAAAA 21870 DATAAAAAAAAAAAAAAA 21880 DATAAAAAAAAAAAAAAA 21890 DATAAAAAAAAAAAAAAA 21900 DATAB10FC920F010C9FE 21910 DATAD0034C005AC9FCD0 21920 DATA0A4C005AEAEAA916 21930 DATA910F60C97EF048C9 21940 DATA7CF044C97BF035C9 21950 DATA6CF0268DFF5FA9FF 21960 DATASD2756EE2756AD0C 21970 DATA62CDFF5FF004C921 21980 DATADOF1EE2756AD2756 21990 DATASD3C56AD0C62910F 22000 DATA60C8B10F88C9FCD0 22010 DATA0E4C005A88B10FC8 22020 DATAC9FED0034C005AA9 22030 DATAAE910FA9008D0460 22040 DATAC6FF60AAAAAAAAA 22050 DATAAAAAAAAAAAAAAA 22060 DATARAAAAAAAAAAAAA 22070 DATAAAAAAAAAAAAAA 22080 DATAAAAAAAAAAAAAAA 22090 DATAAAAAAAAAAAAAAA 22100 DATAAAAAAAAAAAAAAA 22110 DATARARARARARARARA 22120 DATACE0A408CFF5FA004 22130 DATAB9FF7F186D066099 22140 DATAFF7FC93AB005ADFF 22150 DATA5FA86038E90A99FF 22160 DATA7FA9018D06608898 22170 DATAD0DEACFF5F60AAAA 22180 DATAAAAAAAAAAAAAAA 22190 DATAAAAAAAAAAAAAAA 22200 DATAAAAAAAAAAAAAA 22210 DATAAAAAAAAAAAAAAA 22220 DATAAAAAAAAAAAAAAAA 22230 DATAAAAAAAAAAAAAAAA 22240 DATAB1FEC920D006AD00 22250 DATA6091FE60C93CD003 22260 DATA4C9057C93ED0044C 22270 DATA805760C916D0034C 22280 DATAC057C9D1D0044C76 22290 DATA53EA8DFF5FA9008D 22300 DATA0460EAA9FF8D3C57 22310 DATAEE3C57AD1462CDFF 22320 DATA5FF004C921D0F1EE 22330 DATA3C57AD3C578D5157 22340 DATAAD146291FE60AAAA 22350 DATARAAAAAAAAAAAAAA 22360 DATAAAAAAAAAAAAAA 22370 DATAAAAAAAAAAAAAAA 22380 DATAAAAAAAAAAAAAAA 22390 DATAAAAAAAAAAAAAAA 22400 DATAA99888EA91FEC8EA 22410 DATA91FE4C705AAAAAAA 22420 DATAA998C8EA91FE88EA 22430 DATA91FE4C705AAAAAA 22440 DATAA9018D0460EAA5FC 22450 DATA38E90085FEA5FD85 22460 DATAFF20005760AAAAAA 22470 DATAAAAAAAAAAAAAAA 22480 DATAA9A091FEA9008D04 22490 DATA60A9058D0660EEA7 22500 DATA5620A356CEA75660 22510 DATAAAAAAAAAAAAAAA 22520 DATAAAAAAAAAAAAAAA 22530 DATAAAAAAAAAAAAAA 22540 DATAAAAAAAAAAAAAAA 22550 DATAAAAAAAAAAAAAA 22560 DATAA9008D0260AD0160 22570 DATA850FA9808510A50F 22580 DATA186928850F9009E6 22590 DATA10A510C984D00160 22600 DATAB10FC93CD0E8EE02 22610 DATA6060AAAAAAAAAA 22620 DATAAAAAAAAAAAAAAA 22630 DATAAAAAAAAAAAAAAA 22640 DATAAAAAAAAAAAAAAAA 22650 DATAAAAAAAAAAAAAAA 22660 DATACE0D70F00160CE01 22670 DATA5BA9028D0D7060AA 22680 DATAAAAAAAAAAAAAAA 22690 DATAAAAAAAAAAAAAAA 22700 DATAA91C8D0F60A9E785 22710 DATA0FA9838510C60FA5 22720 DATA0FC9FFD008C610A5 22730 DATA10C97FF009B10F49 22740 DATA80910F4C7D5820A0 22750 DATA5ACE0F60D0D760AA 22760 DATAA5FD8510A5FC38E9 22770 DATA1E850FB002C610AC 22780 DATA1360A50F38E92885 22790 DATA0FB008C610A510C9 22800 DATA7FF017B10FC93CF0 22810 DATA04C93ED0E5981869 22820 DATA28A8EAA916910FA0

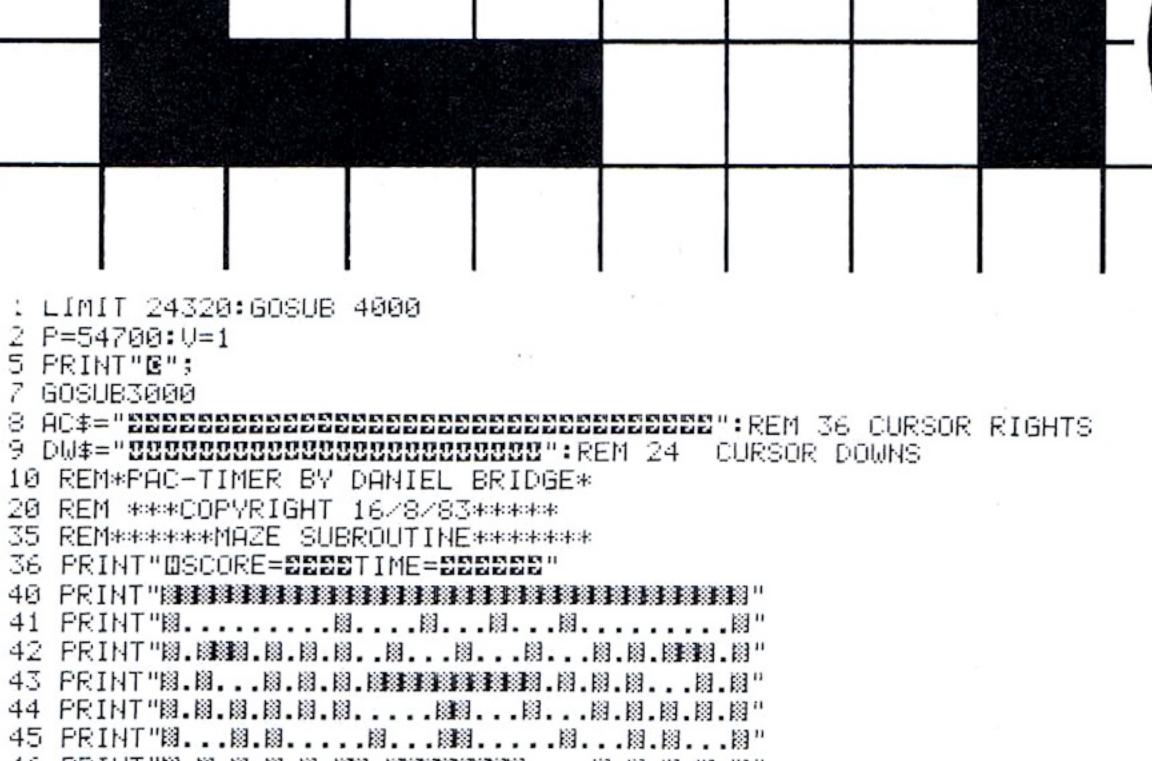
22830 DATA0160A00160AAAAA 22840 DATAAAAAAAAAAAAAAAA 22850 DATAAAAAAAAAAAAAAA 22860 DATAAD0C60D0086020E2 22870 DATA52EAEAEAEA207A50 22880 DATAAD206009028D2060 22890 DATAAD0360F019A9258D 22900 DATA0160200058AD0260 22910 DATAD00520005160EA20 22920 DATA0052CE036060A927 22930 DATA8D0160200058AD02 22940 DATA60D0042000506020 22950 DATA0052EE036060AAAA 22960 DATAA5FCC9BBD00160AD 22970 DATA206049018D2060EA 22980 DATAA02AB1FCC9FCD011 22990 DATAA9FE91FC88A92E91 23000 DATAFCA02BA97B91FC88 23010 DATA60C9FEF0016088A9 23020 DATA2E91FCC8A96C91FC 23030 DATAE6FCA9FC91FC60AA 23040 DATAARAAAAAAAAAAAAA 23050 DATAARAAAAAAAAAAAA 23060 DATAA5FCC998D00160AD 23070 DATA206049018D2060EA 23080 DATAR02AB1FCC9FED011 23090 DATAA9FC91FCC8A92E91 23100 DATAFCA029A96C91FCC8 23110 DATA60C9FCF00160C8A9 23120 DATA2E91FC88A97B91FC 23130 DATAC6FCA9FE91FC60AA 23140 DATAAD0460F00160EE20 23150 DATA60AD0C60D0016020 23160 DATAE05BEAB1FCC9FED0 23170 DATA0BA002A96C8D0060 23180 DATA20A05760A002A97B 23190 DATA8D006020A05760AA 23200 DATAA9008D0C60A99691 23210 DATA0FC60F910FE60FE6 23220 DATA0F910FC60F20205A 23230 DATA60AAAAAAAAAAAA 23240 DATA20705860CE0E70F0 23250 DATA034C005BA9058D0E 23260 DATA704C655B20B05B60 23270 DATAAAAAAAAAAAAAAA 23280 DATARARARARARARARA 23290 DATAAAAAAAAAAAAAAAA 23300 DATAEE2060A9018D0660 23310 DATA20A056205058A900 23320 DATA8D0460A9A0910F60 23330 DATAAAAAAAAAAAAAAAA 23340 DATAEE2060A9028D0660 23350 DATA20A056205058A900 23360 DATA8D0460A9AE91FE60 23370 DATAAAAAAAAAAAAAAAA 23380 DATAAAAAAAAAAAAAAAA 23390 DATAAAAAAAAAAAAAAA 23400 DATAA9108D1070A9108D 23410 DATA1170CE1170D0FBCE 23420 DATA1070D0F160AAAAAA 23430 DATAAAAAAAAAAAAAAA 23440 DATAA9018D15604C005A 23450 DATAAAAAAAAAAAAAAAA 23460 DATAAAAAAAAAAAAAAAA 23470 DATAAAAAAAAAAAAAAAA 23480 DATAAAAAAAAAAAAAAAA 23490 DATAAAAAAAAAAAAAAA 23500 DATAAAAAAAAAAAAAAA 23510 DATAAAAAAAAAAAAAAA 23520 DATAA9198D0070A9038D 23530 DATA017020F053CE0170 23540 DATAD0F820335BCE0070 23550 DATAD0EB20105CAD0C60 23560 DATAF040A5C5C939D001 23570 DATA60AD0A40C900D0D0 23580 DATA4C705BA5C5C92AD0 23590 DATA062090594C465BC9 23600 DATA32D0032040592080 23610 DATA54AD8D02F00320D0 23620 DATA5920E25260A9108D 23630 DATA0D6020E252CE0D60 23640 DATAD0F84C245AA5FC8D 23650 DATA0570A5FD8D067060 23660 DATACE0970AD0970D088 23670 DATAA9358D0970A9008D 23680 DATA0360A9008D0460A9 23690 DATA20A00091FEA93C8D 23700 DATA0A40A9038D0D70A9 23710 DATA1E8D015BA5FC8D05 23720 DATA70A5FD8D067060AA 23730 DATAAAAAAAAAAAAAA 23740 DATAA9808D04D4A9008D 23750 DATA00D4A9308D01D4A9 23760 DATA198D05D4A9008D06 23770 DATAD4A90F8D18D4A981 23780 DATASD04D460AAAAAAA 23790 DATAAAAAAAAAAAAAAA 23800 DATAA9808D04D4A9008D 23810 DATA00D4A9C08D01D4A9 23820 DATA198D05D4A9008D06 23830 DATAD4A90F8D18D4A981 23840 DATA8D04D4A02A60AAAA 23850 DATA060504AAAAAAAAA 23860 DATAEEFF60ADFF60C903 23870 DATA9005A9008DFF60AA 23880 DATABD085C8D08D4A900 23890 DATA8D07D4A9208D0BD4 23900 DATAA900EAA9188D0CD4 23910. DATAA9008D0DD4A90F8D 23920 DATA18D4A9218D0BD420 23930 DATAF05860FFFFFFFFF 23940 DATAFFFFFFFFFFFFFF 23950 DATAFFFFFFFFFFFFFF 23960 DATA00000000000000000 24000 DATA XXX READY.











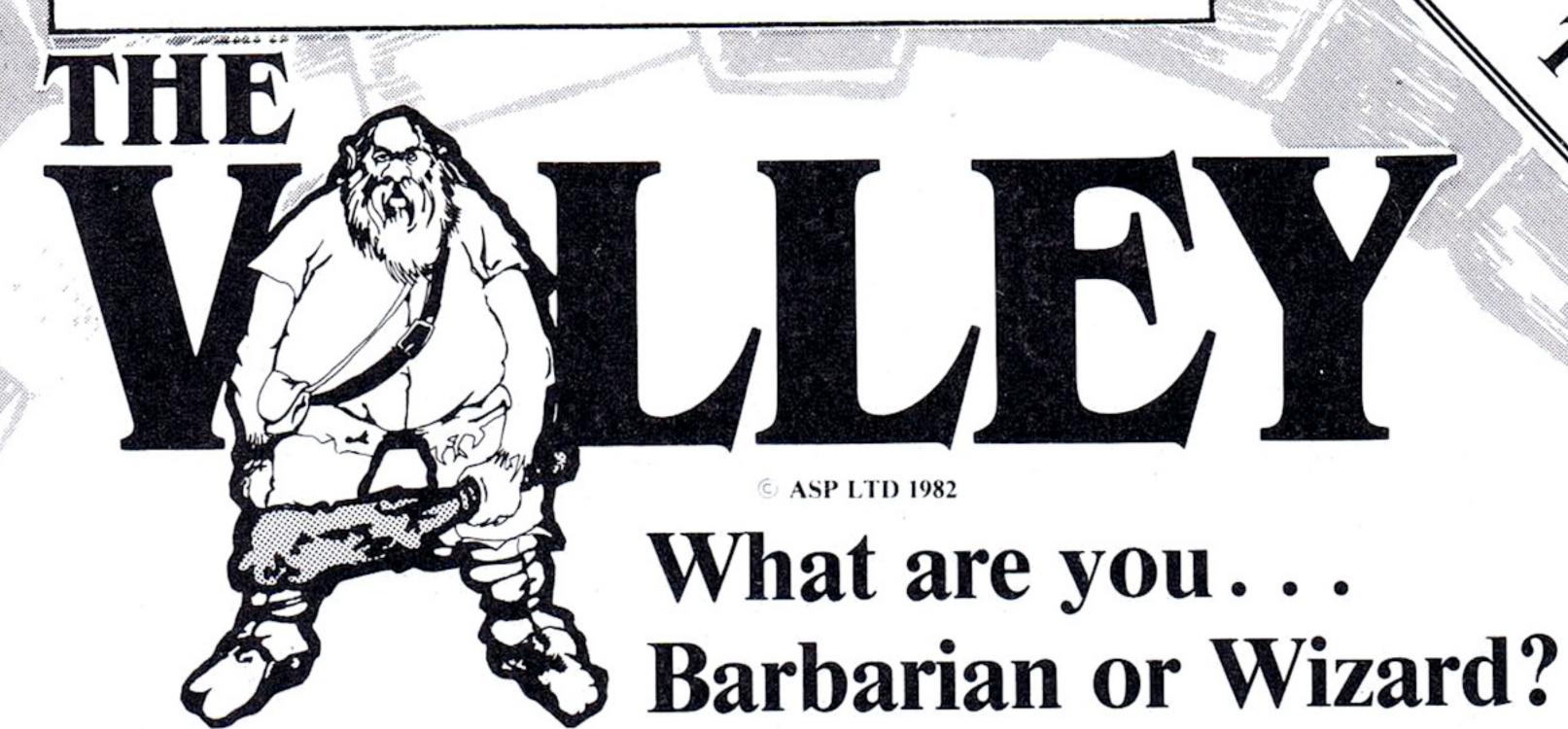
47 PRINT"8.8.8.8.8....8 脚..脚.周.周.周.周.周" 52 PRINT"..腳....腳腳..腳腳 88..88....8.8" 54 PRINT"8.8.8.8.8....8 B....B.B.B.B.B" 8.88...B.8.8.8" 56 PRINT"8.8.8.8.8....88888888888....8.8.8.8.8" 63 FORSR=0T05\*V:REM MAKE MORE DIFFICULT FOR HIGHER SHEETS 65 PRINT"O"; LEFT\$(AC\$,RND(1)\*35+1); LEFT\$(DW\$,RND(1)\*22+2); "." 80 MUSIC"RO": TEMPOM 100 USR(24320):L=PEEK(24560) 105 IF S>=361 THEN U=U+1:GOTO36:REM CLEARED A SHEET 106 IF Y=191 THEN S=S+50 107 IF Y=71 THEN S=S-20:MUSIC"D5C3B2A0"

108 IF Y=46 THEN S=S+1:MUSIC"A#A0" 109 IF VAL(TI\$)=T GOTO2000 110 POKE P,0 119 IF L=0 THEN X=P:GOTO145 120 ON L GOTO 125,130,135,140 125 X=P+40:GOT0145 130 X=P-40:GOT0145 135 X=P+1:G0T0145 140 X=P-1:GOT0145 145 Y=PEEK(X): IF Y<>67 THEN P=X 150 POKE P,206 160 PRINT" DEEDEE"; S; "EDEEDEE"; TI\$ 180 GOTO100 2000 PRINT"B TIME UP! YOUR SCORE IS "; S 2010 PRINT"YOUR SCORE DIVIDED BY YOUR TIME MULTIPLIED BY"; 2020 PRINT" THE NUMBER OF SHEETS YOU HAVE COMPLETED IS"; 2030 PRINT S/T\*U 2040 PRINT"ANOTHER GAME(YZN)"; 2050 GET Q\$ 2060 IF Q\$="Y" THEN S=0:GOTO2 2070 IF Q\$="N" THEN STOP 2080 GOTO2050 3000 PRINT" CHOW MUCH TIME DO YOU WANT"; 3010 INPUT T:IFT=0THENGOSUB3060:GOTO3010 3020 PRINT"WHAT SPEED(1-SLOWEST:7-FASTEST)"; 3030 INPUT M:IF(M=0)+(M>7)THENGOSUB3060:GOTO3030 3040 LET TI\$="000000" 3050 PRINT"E";:RETURN 3060 PRINT" Don't be silly" 3065 FORSR=1T01000:NEXT 3070 MUSIC""C\_D":PRINT"% 2":RETURN 4000 FOR A=24320 TO 24342 4010 READ B: POKE A, B 4020 NEXT A 4030 RETURN 4040 DATA 205,27,0,33,16,95,1,5,0,237,177,121,50,240,95,201 4050 DATA 65,68,87,88,0,0,0 4060 REM RESULT IN(5FF0H)\*\*\*\* .5000 LIMIT24320:GOSUB 4000 5010 USR(24320):PRINT PEEK(24560); 5020 GOTO5010

68 NEXT SR

70 REM

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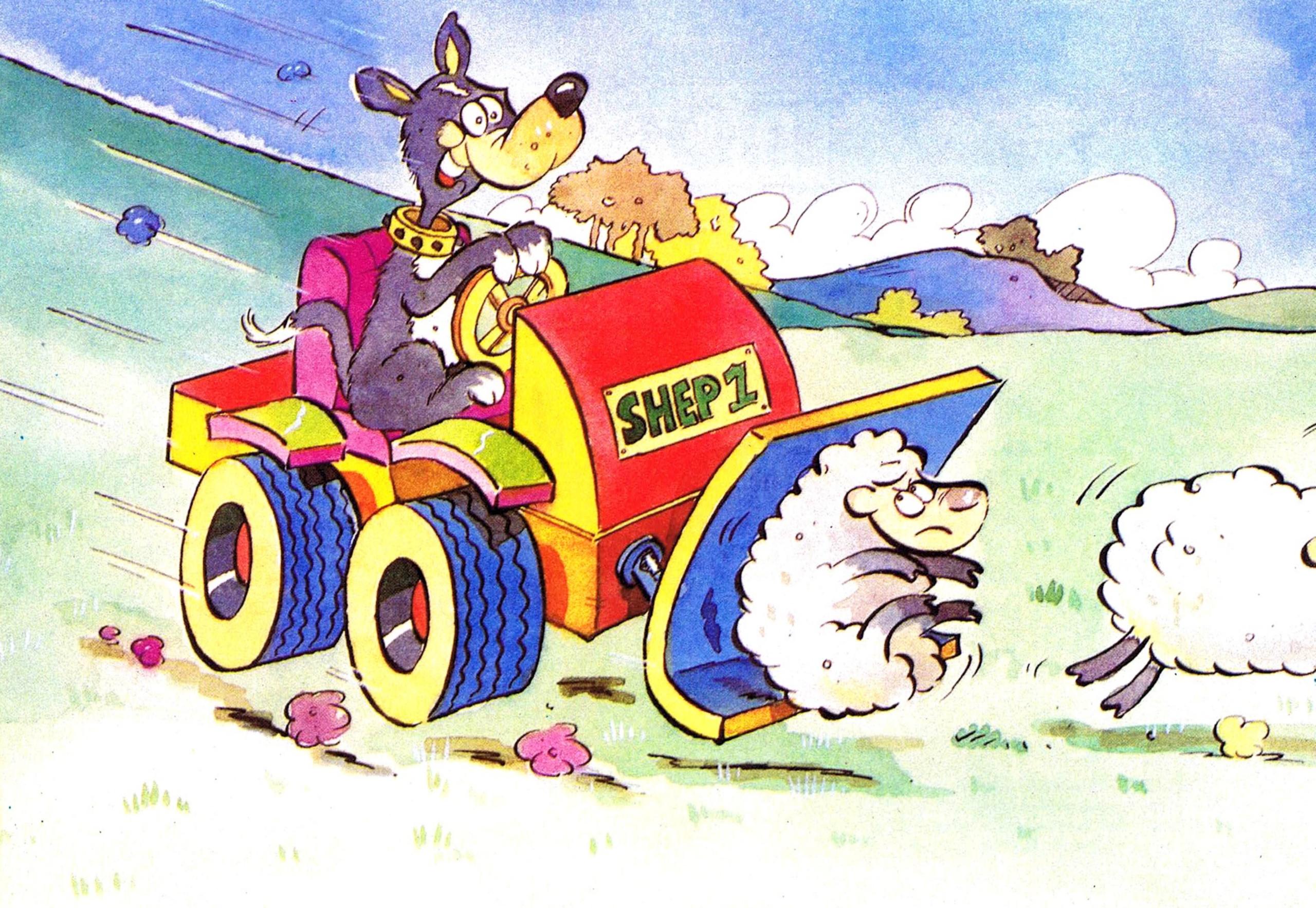
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# 

### By Steven Bonnett

This Texas game could alter your thoughts of a peaceful life down on the farm to a more frenetic and frustrated outlook.

Sheepdog trial, let's face it, is not an entirely new game as far as the concept goes. But that doesn't detract from the program, nor the game, which will give you a challenging, entertaining and colourful time with your TI. The idea of the game is for you to round up a flock of bleating, lost sheep using your skill as a dog handler to guide your dog to successfully round up the sheep, putting them safely in the farm's pen.

A simple yet fun game for all the family.

### **Conversion Clues**

The screen on the TI99/4A consists of 24 rows by 32 columns, with 1,1 being the top left corner. The screen is accessed by the following built-in routines:

CALL CLEAR fills the screen with spaces.

CALL SCREEN (COLOR) sets screen border to color.

CALL GCHAR (row,col,ch) sets character to ASCII value of character at row, column.

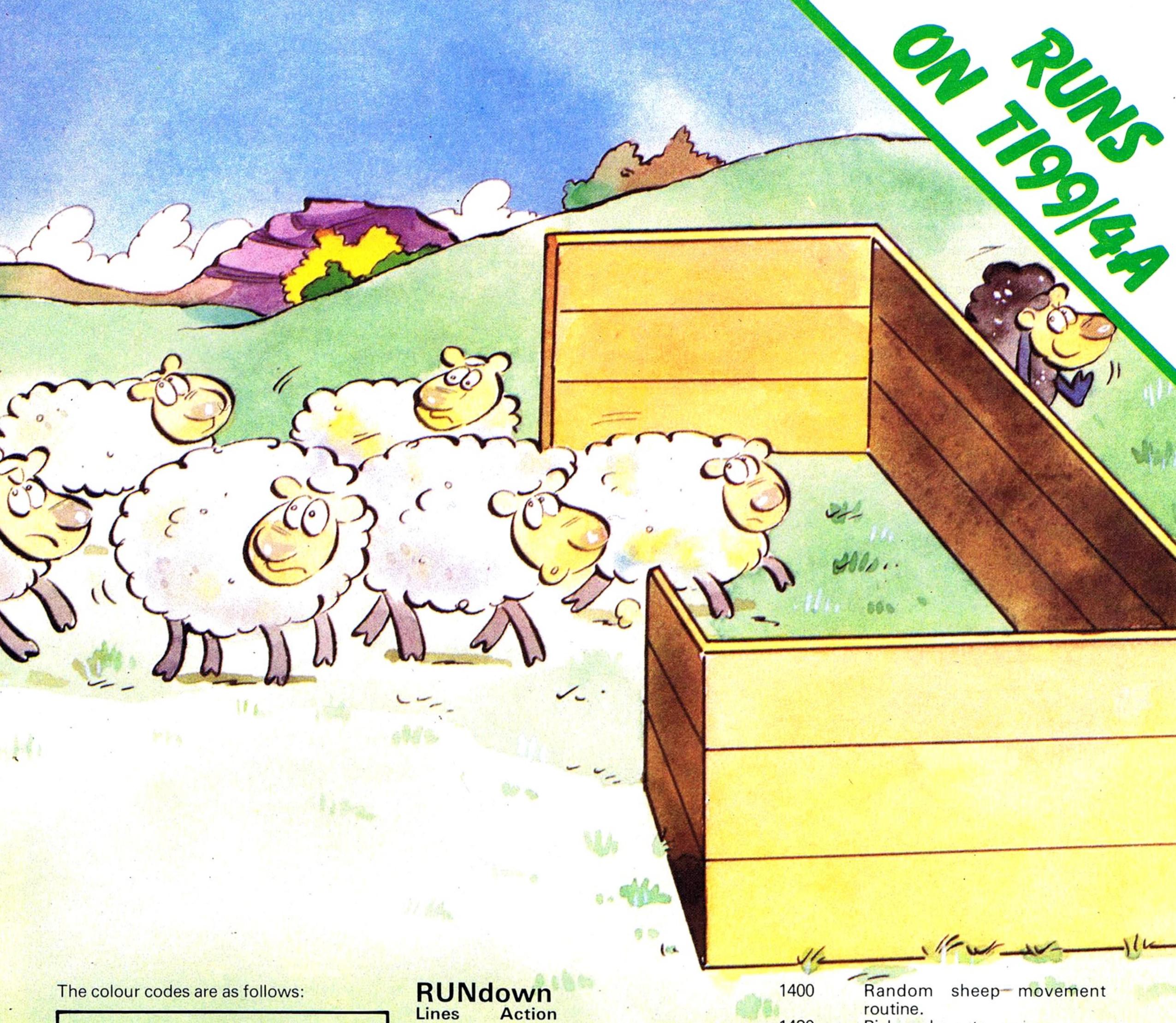
CALL HCHAR (row, col, CH,N) repeats character with ASCII value c, N times

horizontally from left to right starting at row, column.

CALL VCHAR (row,col,CH,N) as for HCHAR except the characters are repeated vertically.

CALL CHAR (CH,A\$) sets the character with ASCII code CH to the bit representation specified by A\$, where A\$ is a string of hex digits. The characters are 8 by 8 pixels, so each set of two hex digits represents one row of the character.

CALL COLOR (G,F,B) sets the foreground color to F and the background color to B of the 8 characters in group G, where characters 32-39 are in group 1, 40-47 are in group 2, etc.



TRANSPARENT	1
BLACK	2
MEDIUM GREEN	3
LIGHT GREEN	4
DARK BLUE	5
LIGHT BLUE	6
DARK RED	7
CYAN	8
MEDIUM RED	9
	10
ALL THE RESIDENCE AND ADMINISTRATION OF COMMUNICATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRAT	11
	12
	13
	14
	15
WHITE	16

100-410	Print instructions.
420-440	Make sheep transparent while
	they are being placed.
470	Sets the limit.
490-620	Place the sheep in field.
630-690	Define fence characters.
700-890	Draw pen and boundary
	fences.
900-920	Place dog.
940-990	Define sheep shape and col-
	our.
1000-1060	Define dog.
1080	Get any input into K (memory).
	Decrement and check time
	limit.
1120	Check keyboard status.
1150-1270	Check new dog position.
1280-1290	Bark.

Picks a sheep to move.

1470-1490 Calculate new position of sheep.

1500-1540 Draw sheep in new position.

1550-1570 Update sheep position.

1590-1650 Move sheep away from barking dog.

1660-1700 Draw sheep in new position.

1760-1850 Count number of sheep in pen.

1860-1960 Print appropriate stop message.

### Main Variables

XSHEEP, YSHEEP X,Y co-ordinates of sheep.

TIME Time left to play.

XD, YD X,Y co-ordinates of dog.

SHINPEN Number of sheep in pen.

110	REM SHEEP- DUG
120	REM BY S. BONNETT
130	REM
140	CALL CLEAR
150	PRINT "DO YOU WANT INSTRUCTIONS"
160	INPUT "(Y/N)": A\$
170	IF SEG\$ (A\$, 1, 1) = "N" THEN 420
180	CALL CLEAR
190	REM PRINT INSTRUCTIONS

- 1
350
0
"מא

1320-1390 Draw dog in new position.

- 4	290	PRINT	
	300	PRINT	"THEM AND BARKING. "
10.75	310	PRINT	As all a larger to the same of
	350	PRINT	"GET ALL THE SHEEP INTO THE"
	330	PRINT	
1	340	PRINT	"PEN BEFORE YOU RUN OUT OF "
	350	PRINT	
	360	PRINT	"TIME."
100	370	PRINT	

```
1100 TIME=TIME-1
380 PRINT
                                                                          1110 IF TIME<1 THEN 1910
390 PRINT "PRESS ANY KEY TO CONTINUE"
                                                                          1120 IF S=0 THEN 1170
400 CALL KEY(0, K, S)
                                                                         1130 NEWY=YD
410 IF S=0 THEN 400
                                                                         1140 NEWX=XD
420 RANDOMIZE
                                                                         1150 DN PDS("EXDS ", CHR$(K), 1)+1 GOTO 1170, 1200, 1220, 1240, 1260, 1290
430 CALL CLEAR
                                                                         1160 REM NO INPUT-WAG TAIL
440 CALL COLOR(10, 1, 1)
                                                                         1170 CALL GCHAR (YD, XD, CH)
450 CALL COLOR(13, 1, 1)
                                                                         1180 CALL HCHAR (YD, XD, 98+99-CH)
460 DIM XSHEEP(10), YSHEEP(10)
                                                                         1190 GDTD 1080
470 TIME=450
                                                                         1200 NEWY=YD-1
480 NUMSHEEP=INT(RND*8)+1
                                                                          1210 GDTD 1330
490 REM PLACE SHEEP
                                                                          1220 NEWY=YD+1
500 FOR SH=1 TO NUMSHEEP
                                                                          1230 GOTO 1330
510 XSHEEP(SH)=INT(RND*15)+15
                                                                         1240 NEWX=XD+1
520 YSHEEP(SH)=INT(RND*22)+2
                                                                         1250 GOTO 1330
530 IF (XSHEEP(SH)<10)*(YSHEEP(SH)<10) THEN 510
                                                                         1260 NEWX=XD-1
540 CALL GCHAR (YSHEEP (SH), XSHEEP (SH), CH)
                                                                          1270 GDTD 1330
550 IF CH<>32 THEN 510
                                                                          1280 REM BARK
560 REM . B IS PROBABILITY OF WHITE SHEEP
                                                                          1290 CALL SOUND(65, 131, 2, -6, 2)
570 IF RND> 8 THEN 610
                                                                          1300 GOSUB 1590
580 CALL HCHAR (YSHEEP (SH), XSHEEP (SH), 128)
                                                                          1310 GOTO 1080
590 GDTD 620
                                                                          1320 REM RE-DRAW DOG
600 REM BLACK SHEEP
                                                                          1330 CALL GCHAR (NEWY, NEWX, CH)
610 CALL HCHAR (YSHEEP (SH), XSHEEP (SH), 110)
                                                                          1340 IF CH<>32 THEN 1080
620 NEXT SH
                                                                          1350 CALL HCHAR (NEWY, NEWX, 98)
630 CALL CHAR(104, "0000FF")
                                                                          1360 CALL HCHAR(YD, XD, 32)
640 REM INITIALISE EDGE CHARACTERS
                                                                          1370 XD=NEWX
650 CALL CHAR (105, "080808080808080808")
                                                                          1380 YD=NEWY
660 CALL CHAR(106, "00000F0808080808")
                                                                         1390 GOTO 1080
670 CALL CHAR(107, "0000F80808080808")
                                                                          1400 REM MOVE SHEEP
680 CALL CHAR(108, "08080F")
                                                                          1410 REM . 3 IS PROBABILITY OF NO SHEEP MOVING
690 CALL CHAR(109, "0808F8")
                                                                          1420 IF RND>. 3 THEN 1580
700 REM DRAW BOUNDARY
                                                                          1430 SH=INT(RND*NUMSHEEP)+1
710 CALL HCHAR (1, 1, 104, 32)
                                                                          1440 X=XSHEEP(SH)
720 CALL HCHAR (24, 1, 104, 32)
                                                                          1450 Y=YSHEEP(SH)
730 CALL VCHAR(1, 1, 105, 24)
                                                                          1460 REM . 5 IS FLOCKING FACTOR
740 CALL VCHAR (1, 32, 105, 24)
                                                                          1470 FLOCK=-(RND>. 5)
750 REM DRAW PEN
                                                                          1480 X=X+(1-FLOCK)*(2*(RND>. 5)+1)+SGN(XSHEEP(1)-XSHEEP(SH))*FLOCK
760 CALL HCHAR (6, 6, 104, 6)
                                                                          1490 Y=Y+(1-FLOCK)*(2*(RND>.5)+1)+SGN(YSHEEP(1)-YSHEEP(SH))*FLOCK
770 CALL VCHAR (6, 6, 105, 5)
                                                                          1500 CALL GCHAR(Y, X, CH)
780 CALL VCHAR(6, 12, 105, 5)
                                                                          1510 IF CH<>32 THEN 1580
790 CALL HCHAR (10, 6, 104, 2)
                                                                          1520 CALL GCHAR(YSHEEP(SH), XSHEEP(SH), CH)
800 CALL HCHAR (10, 11, 104, 2)
                                                                          1530 CALL HCHAR(Y, X, CH)
810 REM DRAW CORNERS
                                                                          1540 CALL HCHAR (YSHEEP (SH), XSHEEP (SH), 32)
820 CALL HCHAR(1,1,106)
                                                                          1550 XSHEEP(SH)=X
830 CALL HCHAR (6, 6, 106)
                                                                          1560 YSHEEP(SH)=Y
840 CALL HCHAR (1, 32, 107)
                                                                          1570 GOSUB 1760
850 CALL HCHAR (6, 12, 107)
                                                                          1580 RETURN
860 CALL HCHAR (10, 6, 108)
                                                                          1590 REM MOVE SHEEP AWAY FROM BARK
870 CALL HCHAR (24, 1, 108)
                                                                          1600 FOR SH=1 TO NUMSHEEP
880 CALL HCHAR (24, 32, 109)
                                                                          1610 X=XSHEEP(SH)
890 CALL HCHAR (10, 12, 109)
                                                                          1620 Y=YSHEEP(SH)
900 REM PLACE DOG
                                                                          1630 IF ((X-XD)^2+(Y-YD)^2)>17 THEN 1740
910 YD=5
                                                                          1640 X = X + SGN(X - XD)
920 XD=5
                                                                          1650 Y=Y+SGN(Y-YD)
930 CALL SCREEN(12)
                                                                          1660 CALL GCHAR(Y, X, CH)
940 REM DEFINE SHEEP
                                                                          1670 IF CH<>32 THEN 1740
950 A$="003C7FDFFF3F1212"
                                                                          1680 CALL GCHAR (YSHEEP (SH), XSHEEP (SH), CH)
960 CALL CHAR(128, A$)
                                                                          1690 CALL HCHAR(Y, X, CH)
970 CALL CHAR(110, A$)
                                                                          1700 CALL HCHAR(YSHEEP(SH), XSHEEP(SH), 32)
980 CALL COLOR(13, 16, 1)
                                                                          1710 YSHEEP(SH)=Y
990 CALL COLOR(10, 2, 1)
                                                                          1720 XSHEEP(SH)=X
1000 REM DEFINE DOGS
                                                                          1730 GOSUB 1760
1010 DOG$="1030F1323E1E1236"
                                                                          1740 NEXT SH
1020 CALL CHAR (98, DOG$)
                                                                          1750 RETURN
1030 CALL COLOR(9, 9, 1)
                                                                          1760 REM COUNT SHEEP IN PEN
1040 CALL VCHAR(YD, XD, 98)
                                                                          1770 SHINPEN=0
1050 TAIL$="1034F2323E1E1236"
                                                                          1780 FOR I=1 TO NUMSHEEP
1060 CALL CHAR (99, TAIL$)
                                                                          1790 X=XSHEEP(I)
1070 REM START OF MAIN LOOP
                                                                          1800 Y=YSHEEP(I)
1080 CALL KEY(0, K, S)
                                                                          1810 IF (X<7)+(X>11)+(Y<7)+(Y>10) THEN 1840
1090 GDSUB 1400
                                                                          1820 SHINPEN=SHINPEN+1
                                                                          1830 IF SHINPEN=NUMSHEEP THEN 1860
                                                                          1840 NEXT I
                                                                          1850 RETURN
                                                                          1860 M$="WELL DONE YOU WERE GREAT"
                                                                          1870 FOR I=1 TO LEN(M$)
                                                                          1880 CALL HCHAR(20,5+1,ASC(SEG$(M$,I,1)))
                                                                          1890 NEXT I
                                                                          1900 GOTO 1930
                                                                          1910 CALL CLEAR
                                                                          1920 PRINT "YOU RAN OUT OF TIME"
                                                                          1930 PRINT "DO YOU WISH TO PLAY AGAIN"
                                                                          1940 INPUT "(Y/N)": A$
                                                                          1950 IF SEG$(A$, 1, 1)="Y" THEN 420
                                                                          1960 STOP
```

# PROGRAMMABLE JOYSTICK JOYSTICK INTERFACE Spectrum or ZX81

### ABOUT OUR INTERFACE

The AGF Programmable Joystick Interface is a unique design offering the use of any Ataricompatible joystick with absolutely all software, whether it is cassette or ROM cartridge, with the Sinclair Spectrum or ZX81.

The hardware programmable interface requires no additional software and accurately replicates the keys of the computer in a manner which is responsive to absolutely ALL key reading methods, both BASIC and Machine Code.

The interface does not interfere with key operation and can therefore be used simultaneously with the keyboard.

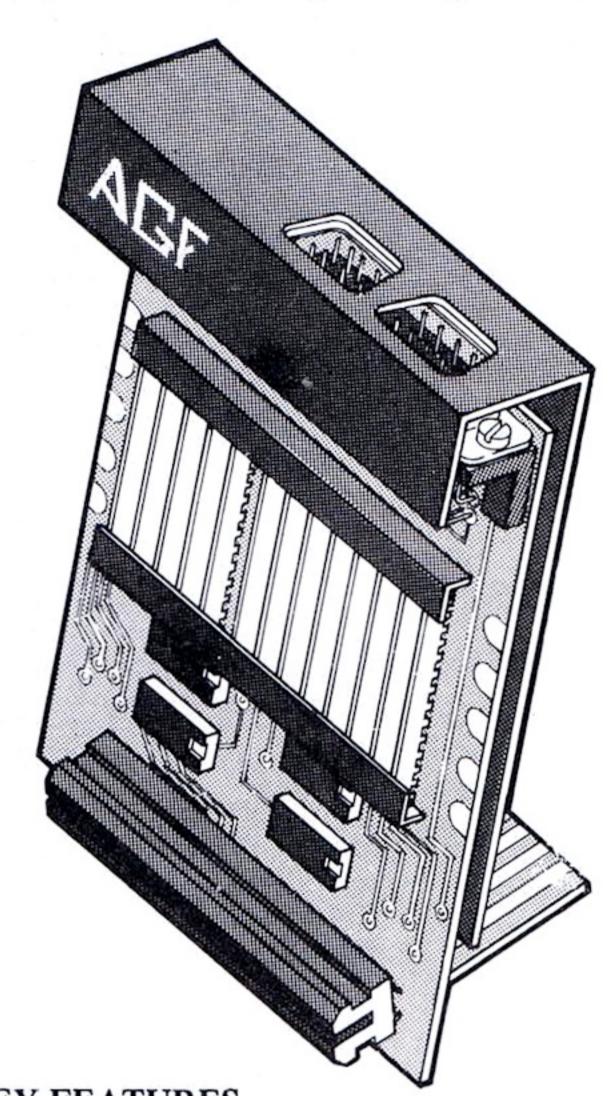
There is no need to remove the interface once fitted as the rear extension connector will accommodate further expansion, i.e printers or RAM packs etc. This important feature avoids excessive wear to the expansion port.

The key replication principle pioneered by AGF means that your own programs can use eight directional joystick movement by utilising simple key reading BASIC.

Two joystick sockets are provided which share the same keys, for use with the majority of two player games. Several interfaces may be used on the same computer for multiple joystick applications.

The interface is programmed by a two digit code, which is looked up on a programming chart supplied, for each direction and firing button. The two numbers are then selected on a pair of leads which are clipped onto appropriately numbered strips on the interface.

Once configured this can be marked on a Quick Reference Programming Card for storing with the game. As the programming is not power dependent the interface retains the last configuration made and can be immediately used when next switched on.



### **KEY FEATURES**

- \* Programmable design gives TOTAL software support.
- \* Accepts Atari, Competition Pro, Wico, Starfighter, Quick Shot, Le Stick etc.
- \* Rear extension connector for all other add-ons.
- \* Free demo program and instructions.

### PACKAGE CONTENTS SUPPLIED

- Programmable Interface Module as illustrated, complete with clip-on programming leads.
- Self adhesive programming chart detailing how to define which key is simulated by UP, DOWN, LEFT, RIGHT, and FIRE. This can be fixed on to the case of your computer or if preferred the protective backing can be left on. The chart is made of a very durable reverse printed plastic and is extremely easy to read.
- One pack of ten Quick Reference Programming Cards for at-a-glance setting to your games requirements. The card allows you to mark the configuration in an easy to read fashion with space to record the software title and company name.
- which is written totally in BASIC to illustrate how all eight directions and fire can be read. This is also a useful high resolution drawing program.
- 12 months guarantee and full written instructions.

# JOYST CKS

CONTROLLERS

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## ...O.K. on all issue Spectrums...



# THE LONDON HOME COMPUTER SHOW

RUMAIMAY ROBOT

### By Jon Smith and Simon N Goodwin

Runaway Robot is a fast, original, colour graphics game for any ZX Spectrum. The program has been carefully written so that it is relatively easy to convert for other computers.

The year is 2083, and the affairs of the planetary federation are controlled by the massive super-computer SPAM (Seven Planets Administrative Machine). SPAM is so large and intricate that it has to be maintained by a squad of robots which roam its corridors checking for faults and carrying out repairs whenever necessary. SPAM would have to be shut down completely before a human could enter its sealed environment.

Unfortunately, one of the maintenance robots has run wild. A fault in its command circuitry means that the robot cannot stop moving at top speed. It is trapped in the middle of the super-computer, careering wildly back and forth, damaging the intricate components which control the economy of seven planets. Already all the Martian income tax records for the last ten years have been scrambled. If further damage occurs inerplanetary trade could collapse!

You have been rocketed up to the SPAM control centre on Titan (one of Jupiter's moons). It is imperative that you bring the robot under control. Limited command circuits have been established, but it has not been possible to halt the robot. You must steer it away from the heart of the computer before it finally goes haywire and explodes.

### **Playing The Game**

When you RUN the program it will ask you how many players wish to take part. Type 1 or 2. If you select the two player game, each player will have to bring a different runaway robot under control. The players take turns to guide their robots through sections of the super-computer.

Press the "q" key to turn the robot towards the top of the screen, and press "a" to turn it in the opposite direction. Use the "o" and "p" keys to turn the robot left and right. Make sure the CAPS LOCK is not set, otherwise the keys will not be recognised. You can alter them if you wish by substituting different characters in line 140.

Scattered between the wiring-banks of SPAM you will find purple storage cells — batteries for the maintenance robots. These restore the energy supply, making it possible for you to move the robot further from the critical parts of the supercomputer.

You cannot leave a section of SPAM until you have collected all the batteries in it. As the game goes on you will move into increasingly complex parts of the super-computer. There are more batteries

in the outer sections, but the wiring pattern is more dense so you must take extra care to avoid damaging SPAM. Each time the runaway robot collides with the circuitry it loses energy. When the energy (shown at the bottom of the screen) reaches zero the robot will explode . . . **Hints On Play** As the game progresses the wiring inside the computer will become more and more complex, but there will always be a route to each of the storage cells. There are 30 different 'levels' of wiring. At high levels the number of batteries is increased as well as the cost of collisions and the complexity of the maze. It is easy to overshoot junctions unless you control the robot carefully. If you press the required key just before the robot reaches a turning you will not overshoot. Once your robot has crashed it goes out of control, bouncing randomly back and forth until you steer it away from the obstruction. Take control again quickly or the robot will destroy itself.

The key to playing Runaway Robot well is choosing the best possible route through the circuitry of SPAM. Try to select the shortest possible path between the storage cells. To do this you should look around the design as you move, constantly planning ahead. The robot uses up energy every time it changes direction.

There are two times at which you can study the circuitry without having to control the robot at the same time. Before you move through each section of the computer you will see the wiring build up on the screen. Once the complete section is drawn the storage cells are positioned, and a fanfare sounds. You then have four seconds in which to study the wiring before the robot starts to move. If you don't need this time then you can start immediately by pressing a direction key.

### Summing Up

The heart of *Runaway Robot* is the random circuit generator, which produces an almost inifinite number of different mazes. In each maze you are guaranteed that a path will exist between every point, so you can never end up 'trapped' however complicated the maze is.

The random circuit generator can be used to produce mazes in any other game you care to design. it uses simple graphics (a corner, horizontal and vertical lines), and requires a minimum graphics resolution of only 31 by 21, so it should run with few changes on almost any computer.

The Solar System is counting on you. The Interplanetary Revenue Service will reward you if you can save their records from destruction. What right-thinking sentient being could resist such a challenge?

### RUNdown

Action Lines 100 The main program starts at line 200. The two most often used subordinates have been entered at the beginning of the listing so that they can be found quickly by BASIC. The game would be slower if they were at the end of the program. Read the Spectrum keyboard. 110-160 If a direction key is pressed return with the direction number (1 to 4) stored in 'direction'. If no key is pressed, keep the old direction. 170-190 Draw a 'star' (circuit junction) in the odd-numbered row and column specified by 'x' and 'y'. Set up the program and then 200-280 play the game over and over again for each player. 290-300 Store the most commonlyused values in variables. This makes the program slightly

amounts of extra code.

Tell the computer the size of the screen, in rows (Y) and columns (X).

shorter, but it is not necessary

unless you plan to add large

Reserve space so that the details of two players can be stored.

Stop the Spectrum keyboard auto-repeat (this speeds up the game).

350-400 Set up two arrays which determine the relationship between 'direction' and X and Y coordinates. Store the graphics for the robot in each direction (right, down, left, up) in E\$.

Define the graphics for the bat-

410-500 Define the graphics for the batteries and circuitry.
510-600 Let the user select a one or two

Let the user select a one or two player game. Put the starting energy into E(), the level into L(), and the score into S().

610-620 Let one player play. Fetch the results so far. If it is a two player game then say who is to play next.

630 Call up the parts of the program which do the real work!
640-650 Save the results so far and

return.

660-670 Work out how many times you must fail to place a connection before you decide that the circuit is 'complete'.

680-690 Clear the screen to a white area 31 printing positions across by 21 down.

700-780 Draw wiring between random points unitl the circuit is complete.

Join junctions with a horizontal line (character 146) or a vertical line (character 147) depending upon the direction.

Move on, unless the edge of the screen has been reached or the next point is an existing junction.

840-870 Carry on selecting new directions, but don't go back the way you came.

Record that more wiring has been placed. If the section is not complete then try to lay another wire.

900-930 Prepare to play the game. 940-990 Position batteries (character 144) randomly. The higher the value of 'skill' the more batteries appear.

1000 Draw the robot at the start.
1010 Record how many batteries must be found.

1020 Print the scores so far.

Fanfare and wait for four seconds.

1040-1050 Read the keys and prepare for movement.

1060-1080 See if we have hit a wall or a battery.

Move the robot. If all the batteries have gone then stop.

Pood the level Move on unless

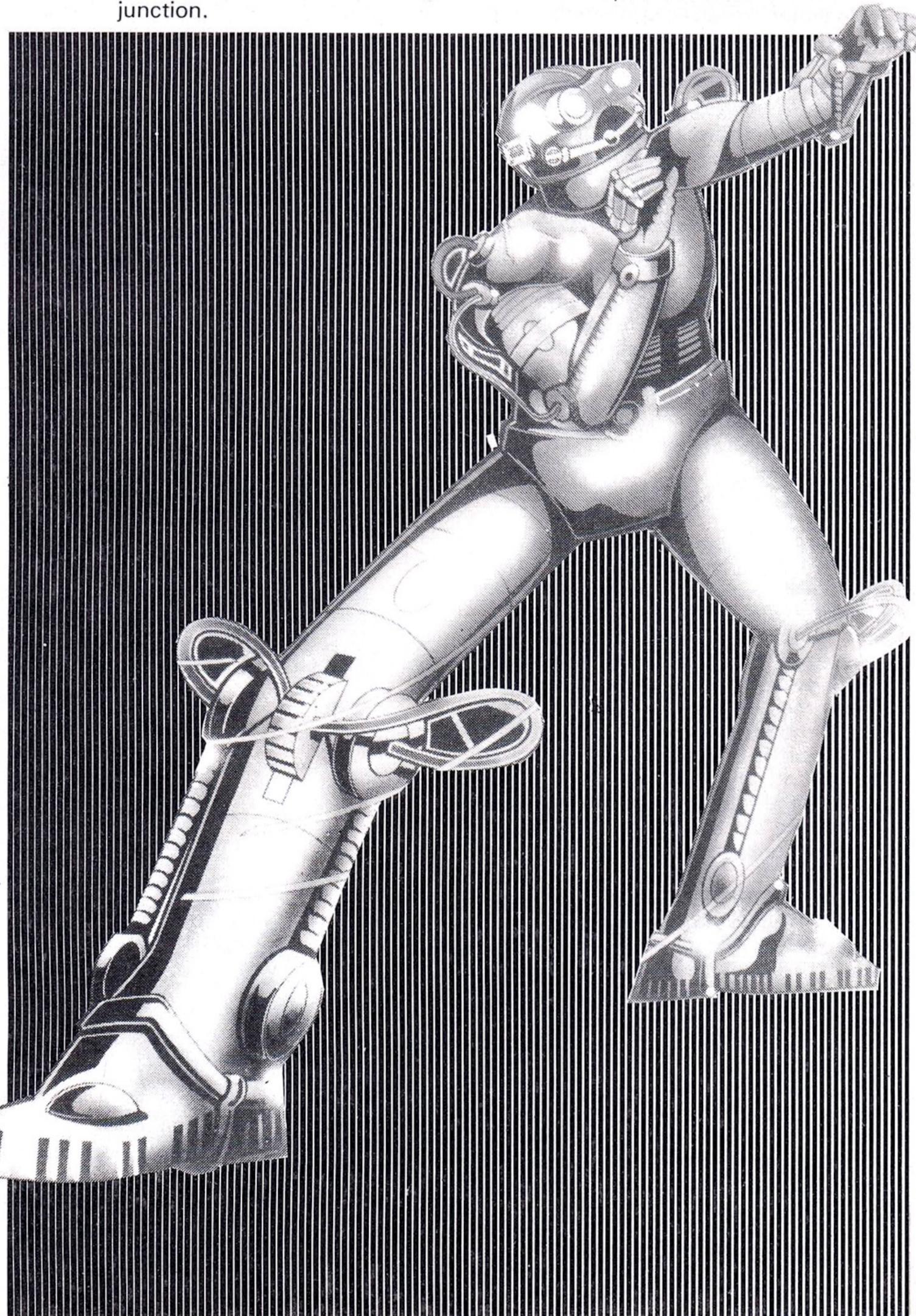
1100 Read the keys. Move on unless they have changed.

1110-1120 Lose energy if the robot has turned, then move again.

1130-1150 If a wall has been hit then punish the player accordingly.

1160 Increase energy — battery found.

1170-1190 Section cleared — play a jingle.
1200-1210 Update scores.



The runaway robot will run no futher . . .

1230-1260 Show final score.

1270-1330 End of game. Show both scores and request another game.

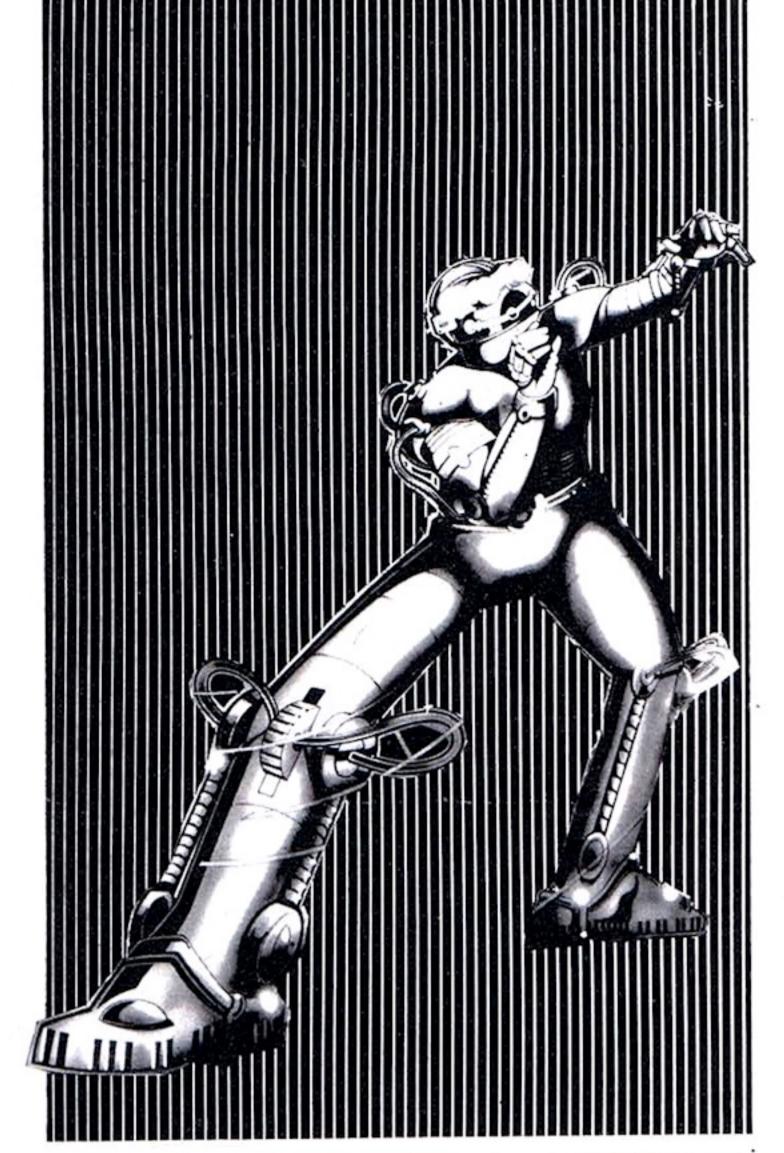
1340-1370 Time delay.

### **Conversion Clues**

Runaway Robot is not a difficult game to convert to run on a different computer, as long as the machine allows you to position characters on a 31 column by 21 row area. There are only three POKEs in the program — these should be missed out on computers other than the Spectrum. You will have to replace the Spectrum user-defined graphics with your own, so omit lines 410-490.

Characters are positioned on the Spectrum display using the PRINT AT Y,X;-CHR\$(N); statement. This positions character N at row Y, column X. Coordinate O,O is the top left hand corner of the display. In the program the following special (user-defined) characters are used:

CHR\$(144) Battery.
CHR\$(145) Junction.
CHR\$(146) Horizontal line.
CHR\$(147) Vertical line.
CHR\$(148) Robot facing left.
CHR\$(149) Robot facing right.
CHR\$(150) Robot facing vertically.



For example, the statement PRINT AT 31,1;"!"; would position an exclamation mark at the right-hand end of the second lines of the display.

The Spectrum does not have a convenient facility for identifying user-defined graphics once they have been printed, so the ATTR(Y,X) function is used to find the colour at a given character position. ATTR(Y,X) is 56 if the character at posi-

tion Y,X is wiring, and 59 if the character is a battery.

The game uses the Spectrum's INK, PAPER and BORDER statements to select colours. In fact it will work (in principle) in black and white, so long as ATTR is replaced by a function which describes the character at a given place on the screen. the INK, PAPER and BORDER statements should, consequently, be omitted. Likewise, the BEEP statements, used for sound effects, are only needed on a Spectrum. You may replace them with the equivalent command on your computer, but the program will still work if they are absent.

Once you have converted the game as written it is possible to increase the size of the circuits generated, so that the whole of your display area is used. Alter the X and Y values in lines 310 and 320 to change the size of circuits. The number of columns is stored in sxmax' and the number of rows is in 'symax'. Both values must be even.

The CODE function is the equivalent of ASC in other versions of BASIC — it returns the ASCII code of a character. IN-KEY\$ returns a single character if a key is pressed — otherwise it returns an empty soring (""). The CLS command clears the display.

Armed with all that useful information to help you play this great game, you're bound to have the time of your life. So go out and get those robots!

```
100 GO TO 200
110 REM look for a key
120 LET ts=INKEYs
130 IF ts="" THEN RETURN
140 LET d=(one AND t$="p")+(two AND t$="a")+(three AND t$="o")+(four AND t$="q"
150 IF d<>0 THEN LET direction=d
160 RETURN
170 REM draw a star
180 PRINT AT y+y+one, x+x+one; CHR$ (145)
190 RETURN
200 REM Start of program
210 GO SUB 0290: REM initialize
220 GO SUB 0510: REM setup vars
230 FOR n=one TO numplayers
240 GO SUB 0610: REM do this player
250 NEXT n
260 IF more THEN GO TO 230: REM still alive?
27Ø GO SUB 127Ø
280 GO TO 220
290 REM initialize
300 LET zero=0: LET one=1: LET two=2: LET three=3: LET four=4: LET seven=7
310 LET sxmax=30
320 LET symax=20
330 DIM s(two): DIM 1(two): DIM e(two): REM player data
340 POKE 23562,0
350 DIM X(four): DIM Y(four): REM steps to take to move in each cardinal direct
360 DATA 1,0,149,0,1,150,-1,0,148,0,-1,150
370 DIM E$(four): DIM p$(one): REM pictures
380 FOR i≡one TO four
390 READ X(i),Y(i),x: LET E$(i)=CHR$ (x)
400 NEXT i
410 REM define user graphics
420 FOR x=zero TO 55: READ y: POKE USR "A"+x,y: NEXT x
430 DATA 63,67,253,133,133,133,134,252
440 DATA 24,60,126,231,231,126,60,24
450 DATA 0,0,0,255,255,0,0,0
460 DATA 24,24,24,24,24,24,24,24
470 DATA 28,28,4,124,28,12,4,12
480 DATA 56,56,32,62,56,48,32,48
490 DATA 60,60,24,60,60,126,66,231
500 RETURN
510 PAPER four: BORDER four: CLS
520 PRINT AT 9,4; INK one; PAPER 5; "HOW MANY PLAYERS[1,2]?"
530 LET t$=INKEY$: IF t$="" THEN GO TO 0530
540 IF t$>"2" OR t$<"1" THEN CLS : PRINT AT 9,7; PAPER 5; INK one; "PLEASE ENTER
1 or 2";: GO SUB 1340: GO TO 0510
 550 LET numplayers=CODE (t$)-48
560 FOR i=one TO numplayers
570 LET s(i)=zero: LET e(i)=400: LET 1(i)=5
580 NEXT i
590 LET more=numplayers
600 RETURN
610 LET energy=e(n): LET score=s(n): LET skill=l(n): IF energy =zero THEN RETUR
620 IF numplayers=two THEN PAPER four: BORDER four: CLS : PRINT AT 9,12; PAPER
5; INK one; "PLAYER ";n;: GO SUB 1340
630 GD SUB 0660: GD SUB 0900: REM draw maze and play
640 LET e(n)=energy: LET s(n)=score: LET 1(n)=skill: IF energy =zero THEN LET m
ore=more-one
 650 RETURN
 660 REM draw maze
670 LET maxcount=skill*20: IF maxcount>300 THEN LET maxcount=300: REM set compl
680 BORDER zero: PAPER seven: INK two: CLS : INK zero
690 FOR x=zero TO 31: PRINT AT 21,x;CHR$ (143);: NEXT x: FOR y=21 TO zero STEP
-one: PRINT AT y,31; CHR$ (143);: NEXT y
 700 LET count=zero
 710 REM chose a random start
 720 LET x=INT (RND*sxmax/2): LET y=INT (RND*symax/2)
 730 LET sxloc=x+x+one: LET syloc=y+y+one: IF ATTR (syloc,sxloc)=56 THEN GO TO 0
880
```

740 LET direction=one+INT (RND\*four): LET oppdir=direction+two: IF oppdir>four

```
760 LET dx=X(direction)
 770 LET dy=Y(direction)
 780 GO SUB 170: PRINT AT y+y+dy+one,x+x+dx+one;
790 IF dx=zero THEN PRINT CHR$ (147);: 60 TO 0810
 800 PRINT CHR$ (146);
 810 LET x=x+dx: LET y=y+dy
 820 IF x<zero OR x>sxmax/2 OR y<zero OR y>symax/2 THEN GO TO 0880
 830 IF ATTR (y+y+one,x+x+one)=56 THEN GO TO 0880
 840 LET len=len-one
 850 IF len<>zero THEN GO TO 0780
 860 LET direction=one+INT (RND*four): IF direction=oppdir THEN GO TO 0860: REM
no double back
 870 GO TO 750
 880 LET count=count+one: IF count<maxcount THEN GO TO 0720
 890 RETURN
 900 REM play the game
 910 PAPER seven: INK one
 920 LET xloc=zero: LET yloc=20: REM start coord of robot
 930 PRINT AT 21,2; PAPER four; INK one; "SCORE:
                                                     "; AT 21,16; "ENERGY:
 940 FOR i=one TO skill
 950 BEEP .05,40-i
 960 LET cx=INT (RND*sxmax): LET cy= INT (RND*(symax-one))
 970 IF ATTR (cy,cx)=56 OR ATTR (cy,cx)=59 THEN GO TO 0960
 980 PRINT AT cy,cx; INK three; CHR$ (144)
 990 NEXT i
1000 PRINT AT yloc,×loc; CHR$ (149);
1010 LET noprize=skill
1020 GO SUB 1200
1030 BEEP .5.0: BEEP 1,7: PAUSE 200
1050 GO SUB 110: LET olddir=direction: LET dx=X(direction): LET dy=Y(direction):
 LET ps=Es(direction)
1060 LET nxloc=xloc+dx: LET nyloc=yloc+dy
1070 IF ATTR (nyloc,nxloc)=56 OR nxloc<zero OR nyloc<zero OR nyloc>=21 THEN GO T
0 1130
1080 IF ATTR (nyloc,nxloc)=59 THEN GO TO 1160
1090 PRINT AT yloc, xloc; " ";: PRINT AT nyloc, nxloc; p$;: LET xloc=nxloc: LET yloc
=nyloc: IF noprize=zero THEN GO TO 1170
1100 GD SUB 110: IF direction=olddir THEN GO TO 1060
1110 LET energy=energy-skill: GO SUB 1200: IF energy =zero THEN GO TO 1220
1120 GO TO 1050
1130 GO SUB 120: IF direction (>olddir THEN GO TO 1050: REM Check for last-minute
 change
1140 LET energy=energy-skill: GO SUB 1200: LET olddir=direction: LET direction=o
ne+INT (RND*four): GO SUB 110: IF energy<=zero THEN GO TO 1220
1150 BEEP 0.01,20: GO TO 1050
1160 BEEP 0.01, zero: LET score=score+skill: LET energy=INT (energy+45*RND): GO S
UB 1200: LET noprize=noprize-one: GO TO 1090
1170 LET skill=skill+one: FOR i=1 TO 20: BEEP .02,i: NEXT i
1180 GO SUB 1340
1190 RETURN
1200 PRINT AT 21,8; INK one; PAPER four; score; AT 21,23;"
                                                               "; AT 21,23; energy;
1220 FOR i=zero TO seven: BORDER 7-i: PAPER i: CLS : NEXT i: PAPER four: BORDER
four: CLS : PAPER one: INK 5: FLASH one
1230 IF numplayers=two THEN PRINT AT 8,12; "PLAYER ";n;
1240 PRINT AT 9,2; "YOU JUST RAN OUT OF ENERGY.";: PRINT AT 10,6; "YOUR SCORE WAS:
 ";SCORE;: GO SUB 1340
1250 FLASH zero
1260 RETURN
1270 PAPER four: BORDER four: CLS
1280 IF numplayers=two THEN PRINT AT 5,6; FLASH one; INK one; PAPER 5; "SCORES: ";
AT 7,10; FLASH 0; "PLAYER 1 : "; s(one); AT 9,10; "FLAYER 2 : "; s(two);
1290 PRINT AT 14,7; PAPER 5; INK one; "DO YOU WANT TO PLAY"; AT 15,11; "AGAINLY, N]?
1300 LET t$=INKEY$: IF t$="" THEN GO TO 1300
1310 IF t$="y" THEN GO SUB 1340: RETURN
1320 IF t$="n" THEN POKE 23562,5: PAPER seven: BORDER seven: INK zero: CLS : STO
1330 CLS : PRINT AT 14,6; PAPER 5; INK one; "PLEASE ENTER Y OR N";: GO SUB 1340:
CLS : GO TO 1290
1340 FOR imone TO 200: NEXT i: RETURN : REM delay
1350 REM ** RUNAWAY ROBOT
1360 REM ** 1983 jon smith
1370 REM ** & Simon N Goodwin
```

THEN LET oppdir=oppdir-four

750 LET len=one+INT (RND\*two)

# BOMBARD



Bombard is a deadly contest fought out in deep space between Earth Base and Alien. Two players take it in turn to control these two sworn enemies, using either the keyboard or joysticks. The alien must try to land on top of the Earth Base, while the Earth Base must dodge and shoot to give him bonus time. A difficult task indeed.

### Variables Used

SC() Each player's score. EARTH x co-ordinates of BASE (and missile). AEM y co-ordinates of MISSILE. x co-ordinates of ALIEN. Player one or two as EARTH BASE. TRUE - players using joysticks. FALSE — players using keys. + X% Waiting loops. Lives. y co-ordinates of ALIEN. Fire button tests — used in

PROCFREEZE.
End instructions; start game if true.
LIVES Lives left.

F Print LIVES.
Print LIVES.
Pitch of note.
Length of note.
Pombards (Rombard) in fac-

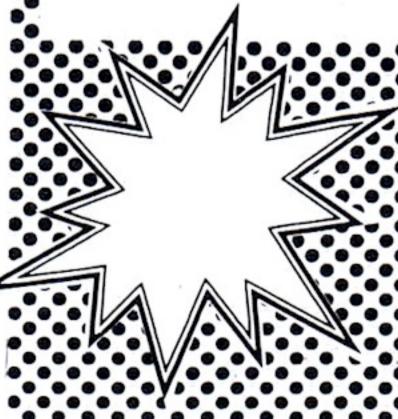
Bombard\$ 'Bombard' in fancy letters.

### 'PROC' names

PROCinstructions =

Prints instructions.

PROCNOPLAY = Plays tunes. PROCALIENDESTROYED = Gives ten seconds bonus. PROCSTARS = Printes stars. PROCKEYS = Checks for movement/fire keys pressed. **PROCWHATKEYS** Displays movement/fire keys. PROCFREEZE = Freezes game. PROCENDGAME = Displays scores after game. PROCNAME = Prints 'BOMBARD' in fancy letters.





### **Graphics Symbols**

200	Missile
201	Alien
202	Missile when stationary
203	Earth base
204	Alien ahead
250	ВО
251	M
252	BA
253	RD

### Program Structure

970-2350 Various procedures.

•	(	
	90-110 120	Gets the program ready to run. Transfers control to lines
		890-850 which prints instruc-
•		tions, etc.
•	130-200	Defines variables.
	130-200 300-650	Main loop.
•	660-780	Earth Base Destroyed.
•	810-880	End of Game.

```
10 REM **********
   20 REM *
               ** BOMBARD **
   30 REM *
   40 REM *
   50 REM * (c) 1983 Ben Craig.
   60 REM *
   70 REM **************
   80 REM
   90 ENVELOPE 1,5,0,0,0,0,0,0,126,-5,-10,-10,126,100
  100 ONERRORIFERR=17RUN ELSE MODE7:REPORT:PRINT" in line ";ERL:END
  110 DIM SC(1)
                                                                                       1120 RESTORE
  120 PROCCHR
                                                                                       1130 CLS
  130 GOTOB90
                                                                                       1140 VDU 23;8202;0;0;0;
  140 MODE 2
                                                                                       1150 PRINT'''CHR$(141);CHR$(136);CHR$(129)"Welcome to the game of "CHR$(130)"BO
  150 *FX 9,1
                                                                                      MBARD!"
  160 *FX 10,1
                                                                                       1160 PRINTCHR$(141); CHR$(136); CHR$(129) "Welcome to the game of "CHR$(130) "BOMBAR
  170 VDU23;8202;0;0;0;
  180 AE=10
                                                                                       1170 PRINTTAB(0,23)CHR$(141);CHR$(150)"kl";CHR$(146);"kl";CHR$(149)"kl";CHR$(13
  190 AEM=30
                                                                                      0); "By Ben Craig"; CHR$(149); "<7"; CHR$(146); "<7"; CHR$(150); "<7"
  200 AS=10
                                                                                       1180 PRINTCHR$(141); CHR$(150) "kl"; CHR$(146); "kl"; CHR$(149) "kl"; CHR$(130); "By Be
  210 FOR PL=0 TO 1
                                                                                      n Craig"; CHR$(149); "<7"; CHR$(146); "<7"; CHR$(150); "<7"
  220 COLOUR 10
                                                                                       1190 FORT=1T039
                      l'layer "; PL:1;" as" "
                                                  EARTH BASE.
  230 PRINT "
                                                                                       1200 READ P.D
  240 COLOUR 3
                                                                                       1210 IFINKEY (-99) JOY=FALSE: E%=TRUE: ENDPROC
                                            SWAP KEYS"
  250 IF PL=1 AND JOY=FALSE PRINT''"
                                                                                        1220 X=ADVAL(0) AND 3
  260 VDU23:8202;0;0;0;
                                                                                        1230 IFX>OJDY=TRUE:E%=TRUE:ENDPROC
  270 T=TIME:REPEATUNTILTIME>T+200
                                                                                        1240 IFP>OSOUND 1,1,P,D ELSESOUND 1,0,0,D
  280 TIME=0
                                                                                       1250 NEXT
  290 FOR LI=1 TO 3
                                                                                        1260 ENDPROC
  300 REPEAT
                                                                                        1270 DEFPROCALIENDESTROYED
  310 CLS
                                                                                        1280 COLOUR 12
  320 PROCSTARS
                                                                                        1290 PRINTTAB(0,10) "ALIEN IS DESTROYED"
  330 H=2
                                                                                        1300 PRINT'"Ten seconds bonus"
  340 REPEAT
                                                                                        1310 T=TIME
  350 COLOUR2
 360 IFAEM<30PRINTTAB(AE,AEM)CHR$(200) ELSE PRINTTAB(AE,29)CHR$(204)
                                                                                        1320 SOUND 0,-7,5,200
                                                                                        1330 FOR N=100 TO 1000 STEP 100
  370 PRINTTAB(AS,H)CHR$(201):*FX10,20
                                                                                        1340 PRINTTAB(6,0); INT(TIME/100)
  380 *FX9,20
                                                                                        1350 REPEATUNTILTIME>T+N
  390 *FX10,20
                                                                                        1360 SOUND 1,-15,100,10
  400 COLOUR10: PRINTTAB (AS, H-1) CHR$ (202)
                                                                                        1370 NEXT
  410 *FX9,1
                                                                                        1380 H=1:AE=10
  420 *FX10,1
                                                                                        1390 AEM=30
  430 COLOUR 5
                                                                                        1400 CLS: PROCSTARS
  440 PRINTTAB(6,0); INT(TIME/100)
 450 PRINTTAB(AE-1,30)" "; CHR$ (203);" "
                                                                                        1410 ENDPROC
                                                                                        1420 REM
  460 PRINTTAB(AE, 29)" "
                                                                                        1430 REM ***** French Revolution *****
  470 FOR W=1 TO 100
  480 NEXT
                                                                                       1450 DATA 121,4,121,7,121,4,141,9,141,9,149,9,149,9,169,15,157,4,141,11
  490 IFINKEY (-68) PROCFREEZE
  500 PRINTTAB (AS,H) " "
                                                                                        1460 REM
 510 PRINTTAB(AS, H-1)" "
                                                                                        1470 REM
                                                                                        1480 REM ***** Yankee Doodle *****
  520 IFAEM<30PRINTTAB(AE,AEM)" "
                                                                                       1490 REM
 530 IFJOY=FALSE PROCKEYS: GOTO590
                                                                                       1500 DATA 0,20,53,10,53,10,61,10,69,10,53,10,69,10,61,10,33,10,53,10,53,10,61,1
 540 IFPL=OANDADVAL(3)<22000ANDAS<17AS=AS+1 ELSEIFPL=1ANDADVAL(1)<22000ANDAS<17
                                                                                      0,69,10,53,20,49,20,53,10,53,10,61,10,69,10,73,10,69,10,61,10,53,10,49,10,33,10,
4S=AS+1
 550 IFPL=OANDADVAL(3)>42000ANDAS>1AS=AS-1 ELSE IFPL=1ANDADVAL(1)>42000ANDAS>1A
                                                                                      41,10,49,10,53,20,53,20
                                                                                        1510 DEFPROCSTARS
 560 IFPL=OANDADVAL(1)<22000ANDAE<17AE=AE+.5 ELSEIFPL=1ANDADVAL(3)<22000ANDAE<1
                                                                                        1520 COLOUR 5
                                                                                       1530 PRINTTAB(0,0) "SCORE: "; INT(TIME/100); " LIVES: ";
 570 IFPL=OANDADVAL(1)>42000ANDAE>1AE=AE-.5 ELSE IFPL=1ANDADVAL(3)>42000ANDAE>1
                                                                                        1540 LIVES=3-LI
                                                                                        1550 FOR F=0 TO LIVES
AE=AE-.5
 580 X=ADVAL(0)AND3: IFPL=OANDX=1 AND AEM=30 AND H<20 AEM=29 ELSEIFPL=1ANDX=2 AN
                                                                                        1560 PRINTCHR$ (203);
D AEM=30 AND H<20 AEM=29
                                                                                        1570 NEXT
  590 IFAEM<30ANDAEM>0AEM=AEM-1
                                                                                        1580 VDU 5
  600 IFAEM=0AEM=30
                                                                                       1590 FOR N=1 TO 50
                                                                                        1600 GCOLO, RND (7)
  610 H=H+1
 620 IF INT (AE) = AS AND AEM = H AND AEM < 30 PROCALIENDESTROYED
                                                                                        1610 MOVE RND(1279), RND(1023)
  630 UNTILH>29
                                                                                        1620 PRINT"."
  640 SOUND &10,1,5,10
                                                                                        1630 NEXT
  650 UNTILAS=INT (AE)
                                                                                        1640 FOR N=1 TO 10
                                                                                        1650 GCOLO, RND(7)
  660 COLOUR 12
 670 PRINTTAB(0,10) "Alien has destroyed earth base!"
                                                                                        1660 MOVERND(1279), RND(1023)
                                                                                        1670 PRINT"*"
 680 FOR N=1 TO 50
 690 GCOL 0,RND(7):MOVE 67.5*AE,50:DRAWRND(1279),RND(1023)
                                                                                        1680 NEXT
  700 COLOURRND(7)
                                                                                        1690 VDU 4
 710 PRINTTAB(6,0); TIME DIV 100; ". "; TIME MOD 100; SPC(5)
                                                                                        1700 ENDPROC
                                                                                        1710 DEFPROCKEYS
  720 SOUND 1,-15,N,1
                                                                                        1720 IFINKEY (-67) ANDAS < 17AS = AS+1
  730 -NEXT
                                                                                        1730 IFINKEY (-98) ANDAS>1AS=AS-1
  740 SOUND 0,-15,5,10
                                                                                        1740 IFINKEY (-104) ANDAE< 17AE=AE+.5
  750 AE=10
                                                                                        1750 IFINKEY(-103)ANDAE>1AE=AE-.5
  760 AEM=30
                                                                                        1760 IFINKEY (-74) AND AEM=30 AND H<20 AEM=29
  770 AS=10
                                                                                       1770 ENDPROC
  780 NEXT
                                                                                        1780 DEFPROCWHATKEYS
  790 MODE7
 800 SC(PL)=TIME DIV 100:PRINT'''CHR$(141);CHR$(134);"You lasted ";SC(PL);" sec
                                                                                        1790 CLS
s.": VDU141,134: PRINT"You lasted "; SC(PL); " secs."
                                                                                       1800 VDU 141,145:PRINTTAB(10)"jz jz jz jz"
                                                                                       1810 VDU 141,145:PRINTTAB(10)"jz jz jz jz"
 B10 VDU23; B202; 0; 0; 0;
                                                                                       1820 VDU 141,129:PRINTTAB(10)" K e y 5"
  820 PRINTCHR$(141); CHR$(133);"
                                                                                        1830 VDU 141,129:PRINTTAB(10)" K e y 5"
 830 PRINTCHR$(141); CHR$(133);"
                                                                                       1840 VDU 141,145:PRINTTAB(10)"jk jk jk"
  840 FOR N=1 TO 5000: NEXT
                                                                                        1850 VDU 141,145:PRINTTAB(10)"jk jk jk jk"
  850 MODE 2
                                                                                       1860 PRINT " 'TAB(10) CHR$ (130) "Z = ALIEN left"
  860 NEXT
                                                                                        1870 PRINTTAB(10)CHR$(130)"X = ALIEN right"
 870 MODE 7
                                                                                        1880 PRINT'TAB(10)CHR$(133)"< = EARTH BASE left"
 880 PROCENDGAME
                                                                                       1890 PRINT TAB(10) CHR$ (133) "> = EARTH BASE right"
 890 E%=FALSE
                                                                                        1900 PRINTTAB(5)CHR$(133)"RETURN = EARTH BASE fire"
 900 MODE2: PROCNAME: MODE7
                                                                                        1910 PRINT'TAB(10)CHR$(129)"F = Freeze/Unfreeze game"
 910 PROCNOPLAY
                                                                                        1920 PRINT 'CHR$ (134) "Or use joysticks with fire button for" 'CHR$ (134) "EARTH BA
  720 PROCinstructions
  930 PROCWHATKEYS
                                                                                       1930 PRINT''CHR$(131);CHR$(136) "Press SPACE or FIRE to start game."
  940 X=ADVAL (0) AND3
                                                                                        1940 FOR N=1 TO 7000
  950 IF E%=FALSE GOTO910
                                                                                        1950 X=ADVAL(0)AND3
  960 GOTO 140
                                                                                        1960 IF X>OJDY=TRUE: E%=TRUE: ENDPROC
  970 DEFPROCinstructions
                                                                                       1970 IF INKEY (-99) JOY=FALSE; E%=TRUE: ENDPROC
  980 CLS
 990 PRINTTAB(10);:VDU141,131,157,129:PRINT"BOMBARD ";:VDU156:PRINTTAB(10);:VD
                                                                                       1980 NEXT
U141,131,157,129:PRINT"BOMBARD ";:VDU156
                                                                                        1990 ENDPROC
 1000 PRINT 'CHR$(129) "Who's who :"; TAB(15) CHR$(134) "One player is the "'TAB(15)
                                                                                        2000 DEFPROCFREEZE
CHR$(134) "EARTH BASE in"CHR$(133) "pink" 'TAB(15) CHR$(134) "The other is the ALIEN"
                                                                                        2010 X=TIME
 TAB(15)CHR$(134)"in"CHR$(130)"green."
                                                                                        2020 FORN=1T02000
1010 PRINT'CHR$ (129) "Aim of game : "; TAB (15) CHR$ (134) "The ALIEN must try to" 'TAB
                                                                                        2030 NEXT
(15) CHR$ (134) "destroy the EARTH BASE "'TAB(15) CHR$ (134) "by landing on it. "TAB(15"
                                                                                        2040 REPEATUNTILINKEY (-68)
CHR$ (134) "The EARTH BASE must try" 'TAB(15) CHR$ (134) "to dodge out of the"
                                                                                        2050 FOR N=1 TO 200
1020 PRINTTAB(15)CHR$(134)"way. The EARTH BASE"'TAB(15)CHR$(134)"may shoot down
                                                                                        2060 TIME=X
                                                                                        2070 NEXT
 the ALIEN"
1030 PRINTCHR$($29) "Competitions:"; TAB(15) CHR$(134) "Take it in turns to
                                                                                        2080 ENDPROC
15) CHR$ (134) "be EARTH BASE, The one" 'TAB (15) CHR$ (134) "with the highest score" 'TA
                                                                                        2090 DEFPROCENDGAME
B(15)CHR$(134) "against the other is" 'TAB(15)CHR$(134) "the winner."
                                                                                        2100 VDU23;8202;0;0;0;
 1040 PRINT 'CHR$(131); CHR$(136) "Press SPACE or FIRE to start game."
                                                                                        2110 FOR N=0 TO 1
                                                                                        2120 PRINT ": VDU141,130: PRINT "Player "; N+1; " scored "; SC(N); " points."
 1050 FOR N=1 TO 7000
                                                                                       2130 VDU141,130:PRINT"Player "; N+1; " scored "; SC(N); " points."
 1060 X=ADVAL (0) AND3
 1070 IF X>OJOY=TRUE:E%=TRUE:ENDPROC
 1080 IF INKEY(-99)JOY=FALSE: E%=TRUE: ENDPROC
                                                                                        2150 T=TIME: REPEATUNTILTIME>T+500
 1090 NEXT
                                                                                        2160 ENDPROC
 1100 ENDPROC
                                                                                        2170 DEFPROCCHR
 110 DEFPROCNOPLAY
                                                                                        2180 VDU23,200,16,56,124,124,124,124,254,0
                                                                                        2190 VDU23,201,24,60,90,126,36,66,0,0
                                                                                        2200 VDU23,202,0,0,0,0,0,0,24,24
                                                                                        2210 VDU23,203,24,60,126,255,255,24,24,24
                                                                                        2220 VDU23,204,0,0,0,0,24,24,24,60
                                                                                        2230 VDU23,250,247,149,149,149,229,149,149,247
                                                                                        2240 VDU23,251,125,85,85,85,85,85,85,85
                                                                                        2250 VDU23,252,238,42,42,46,202,42,42,234
                                                                                        2260 VDU23,253,236,170,170,202,170,170,170,172
                                                                                        2270 BOMBARD$=CHR$ (250) +CHR$ (251) +CHR$ (252) +CHR$ (253)
                                                                                        2280 ENDPROC
                                                                                        2290 DEFPROCNAME
                                                                                        2300 FDR N=1 TD 20
                                                                                        2310 COLOURRND(15)
                                                                                        2320 PRINT 'TAB (RND (13) ) BOMBARD$
                                                                                        2330 NEXT
                                                                                        2340 A=INKEY(200)
                                                                                        2350 ENDPROC
```



# WESTMINSTER

### By Stephen Knight

Westminster is a role-playing game which runs on a VIC-20 with at least 8K of memory expansion. The instructions for play are in the text, so I will concentrate here on the programing side of things. The program for Westminster, although long, is fairly simple.

Obviously the main limitation is memory, and those of you who only have an 8K expansion should be warned the program will only just fit. If you have more, however, you may like to consider adding more features. To help you with this, and to assist the owners of other machines who wish to convert the program I will give an explanation of what the program does. Also, I have included a full variable list to help you along and those who wish to increase their chances of success may like to alter some initial values.

The idea of the game is to reach the upper echelons of power in a fictitious government. Obviously the more successful a politician you prove to be the higher your score at the end of the game will be.

### Variable List

S1	The lowest of the four voices of the VIC. SI+1 to SI+5 gives all four and the
Н	screen/border colour control. Support for you in the house.
E	Support for you amongst the
_	electorate.
M	Your own morale rating.
T	The count of how many years
	have passed in this game.
Α	The count of how many years
	have passed since the last elec-
D.	tion.
R	Your present rank. Your allocation of time to
U	ministerial duties
C	Your allocation of time to con-
	stituency duties.
Р	Your allocation of time to
	parliamentary duties
F	Your allocation of time to fami-
	ly duties.
J	Number used during selection
01.00	of random events.
QI-Q8	Amount of votes given to each
	party during election

Percentages estimated in opi-

A\$ Generally used in input lines.
All other variables used are either local situations or as 'Flags'.

### RUNdown

6	Clear memory, and define variable SI.
20-91	Display title screen and play suitable title music!
130-195	Ask if you want instructions. If there is no reply after a certain time (when the variable V has reached 400) a beep will sound.
200-220	Define variables H, E, and M and reset T, A, and R.

200 220	beine variables ii, E, and iv
	and reset T, A, and R.
300	Increase year count by I and
	add I to count of years since
	last election.

305-320	Display	prompt	screen	fo
	allocatio	n inputs.		
222	Classka	shoord hu	ffor	

323	Clear Reyboard Durier.
330-350	See if you're too old. If so
	wait for key press the GOTC
	end screen.

370	Clear	variables	D,	P,	and (
	ready	for new	input	of	alloca
	tions.				

377	If instructions have been called
	for, set flag to ensure return to
	program then GOSUB to in-
	structions.

410	Work	out	what	family	alloca
	tion is				

430	If 4 or 5 years up call election.
440	If random chance occurs call
	emergency early election.
500-580	Recalculate values after new

	allocation			
590	GOSUB	to	display	latest
	nonularity	/ test		

	popularity test.
600-799	In each separate present event
	possibility line (600-605,
	640-650, 720, 754, 760, and
	792) a random number is com-
	pared to your allocation. If the
	random number is higher, the
	event occurs. Most events can
	be identified by the print
	statements they contain.

800-850	Select if	random	event	should
	occur			

860-1140	Three	random	events,	in-
	cluding	promotio	n.	

	1200-1250	Check to see if H, E, or M has
		gone over the limit. If so, cor-
4		rect it.

1300-1380	Display latest popularity test,
	giving voter, M.P. and morale
	ratings.

1400-1484	Display rank calculated from
	variable R after promotion. On-
	ly on one occasion does this
	routine occur when not after
	promotion. This is when $AI = I$ ,
	then this routine is being used
	after the end of a game. The
	GOSUB 4000 in line 1450 uses
	a special sound routine to
	celebrate.

1500-1528	An election has been called.
	You are asked if you wish to
	stand, if so an opinion poll
	(which is normally inaccurate!)
	is displayed.

	10 011	pia, o						
1540-1555	The	variab	les	QI-	Q8 a	ire	def	in-
	ed.	This is	do	ne h	nere	SO	tha	t if
	a re	count	is r	neec	ded t	the	VO	tes
	for	each	par	rty	will	n	ot	be
	dran	natical	lv di	iffer	ent.			

1560-1740	The results of the election are
	displayed. The result is
	calculated, you are offered a
	recount if you lost or con-
	gratulated if you won. It
	should be noted that the
	variables QI, Q2, and Q8 are in-
	cremented by a random
	number. This gives a recount a
	chance to change the result if it
	is very close.

1805-1999 Instructions. Line 1998 checks if the instructions are being displayed during a game (after entering '999').

		_					
2000-2060	End	scre	en.	Your	p	revio	us
	best	ratir	ng a	and i	the	year	is
	displa	ayed,	as	wel	l as	you	r
	lates	t rati	ng.	You	are t	then o	of-
	fered	a ne	w g	ame.	If th	is is n	ot
	requi	red	an	end	SCI	reen	is
	displa	ayed.					

<sup>3000-3134</sup> Random event.

<sup>3500-3600</sup> This routine displays the dot, dot, dots just before an election.

4000-4080	This is the celebration routine
	for after an election or when
	you become Prime Minister.

<sup>5000-5100</sup> Opinion poll is displayed. The variable A is worked out to be used in the election variables.

<sup>8000-8030</sup> Timing loop, the length of loop increases every time until the variable W is reset.

9000	The 'Hit any key' routine. Line
	9005 clears keyboard buffer to
	ensure a key has to be pressed
	after the 'Hit any key' message
	is displayed.

nion poll.

VI-V4

<sup>7000-7999</sup> Random happening.

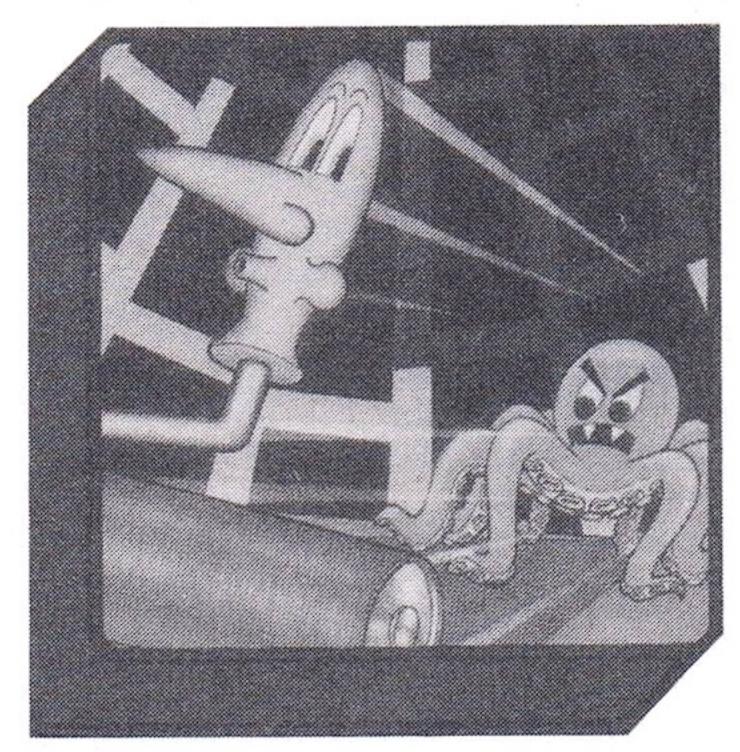
```
1 REM 米米米米米米米米米米米米米米米米
  2 REM * (C) S.KNIGHT *
  3 REM * COMPLETED ON *
  4 REM * 4TH MARCH 83 *
  5 REM 未未未未未未未未未未未未
  6 CLR:S1=36874:POKES1+5,29
  20 PRINT"CD******WESTMINSTER******
  30 PRINT"■ ◆
                                                      \Box
  40 PRINT" | | .....
                                                    50 PRINT" | 00000000000000
                                                                                     1 0000000000000001
                                                    1000000000000001
  68 PRINT" | THE 00000THE 0THE 0000THE |
                                                             & Trend Tren
  70 PRINT"#
                                                                            1 500 Am
                                                                                                           53";
  72 PRINT"GN
                                                                      198881
                                                                                                      V
  73 PRINT"
  74 POKES1+4,15:FORL=1T04:POKES1+1,180:FORM=1T050:NEXTM:POKES1+1,0:FORM=1T0800:NE
  MTK
  80 POKES1,180:FORM=1T050:NEXTM:POKES1,0:FORM=1T0800:NEXTM,L
  90 FORX=1T03:POKES1,170:FORY=15T00STEP-1:POKES1+4,Y:FORT=1T0170:NEXTT,Y:FORY=1T0
  699
  91 NEXTY,X
  130 POKES1, 0: POKES1+4, 15: PRINT "MODO YOU KNOW THE RULESE"
  185 POKE198,0
  190 GETA$: IFA$="N"THEN1800
  191 V≈V+1": IFV<400THEN195
  192 POKES1+5,57:POKES1+2,190:FORX=1T01000:NEXTX:POKES1+2,0:V=0:POKES1+5,29
  195 IFA$<>"Y"THEN190
  199 REM INITIALISE****
  200 H=45+INT(RND(0)*21):E=45+INT(RND(0)*31)
 210 M=50+INT(RND(0)*21)
 220 T=0:A=0:R=1
  299 REM MAIN LOOP****
  300 T=T+1:A=A+1
  305 POKES1+5,27
  307 POKES1+2,230:FORX=1T0100:NEXTX:POKES1+2,0
  310 PRINT"[] 28本本本本本本本本本本本本本本本本本本本本本本
                                                             INESTMINSTER:
                                                                                        ***************
  313 PRINT"'999' FIRST FOR HELP"
  320 PRINT"X PER ";T
  323 POKE198,0
 330 IFT<40+INT(RND(0)*(6+R))THEN370
 348 PRINT" MWELL DONE SENILE-YOUR CONSTITUENCY PARTY HAS 'ENCOURAGED' YOU TO RET
 IRE."
 343 GOSUB9000
 350 GOTO2000
 360 PRINT"TOTAL MUST BE <17"
 370 D=0:P=0:C=0
 371 PRINT" NUMBER DUTIES IN TURNE"
 375 INPUT"與MINISTERIAL C") D
 377 IFD=999THENX1=1:GOSUB1800:GOTO305
 380 INPUT "MACONSTITUENCY G"; C
 390 INPUT "X PARLIMENTARY G" ; P
 400 IFD+P+C>17THEN360
 410 F=17-D-P-C
 420 PRINT"XMFAMILY IS G"; F: PRINT: FORX=1T01000: NEXTX: POKES1+5, 29
 430 IFA=50RA=4+INT(RND(0)*2)THEN1500
 440 IFAC>INT(RND(0)*30)THEN500
 450 PRINT"TINGNE
                                  CRISIS !!!"
 452 PRINT"XEARLY ELECTION FORCEDX":FORX=1T01500:NEXTX:GOT01510
 499 REM CALCULATIONS**
 500 H=H*((D-5)+(P-5)*2)/50+H-1
 510 IFH>100THENH=100-INT(RND(0)*15)
 520 IFH<0THENH≃INT(RND(0)*6)
 530 E≃E*((C-5)*3+(D-5)+(P-5)+(M-50)/5)/150+E-A+C-1
 540 IFE>100THENE=99-INT(RND(0)*10)
 550 IFECOTHENE=INT(RND(0)*3)
 560 M=M*((F-5)*3+(E-40)/10+(H-50)/10)/100+M-A
 570 IFM>100THENM=100-INT(RND(0)*5)
 580 IFM<0THENM=INT(RND(0)*15)
 590 GOSUB1300:PRINT"3"
 599 REM PRESENT EVENTS
600 IFD>INT(RND(0)*4)THEN640
605 IFH>40THEN640
 610 PRINT"PARLIAMENT IS WORRIED ABOUT MINISTERIAL WORK"
620 PRINT"A PUBLIC INQUIRY HAS BEEN SET UP TO CHECK ON YOUR PERFORMENCE XXX"
623 0=0:IFMC5ANDHC25ANDRND(0)C.5THENO=1
625 IFO=1THENPRINT"XTHE REPORT IS SO BAD YOU RESIGN": GOSUB9000: GOTO2000
628 PRINT" WITHE REPORT IS OK"
630 E=E*14/15:M=M*12/13:H=H*8/9
635 GOSUB9000
638 PRINT"3"
640 IFC>INT(RND(0)*3)THEN720
650 IFE>40THEN720
652 PRINT" TYOUR LOCAL PARTY ARE ANNOYED WITH YOU"
660 PRINT"THEY STAGE A VOTE OF NO CONFIDENCE. Nº
665 GOSUB9000
670 J=INT(31-E/3-C+INT(RND(0)*3))
672 IFJ<1THENJ=INT(RND(0)*3)
673 IFJ>31THENJ=31
680 PRINT" MUNOTES ARE COMING IN"
682 PRINT"NFOR"; :GOSUB3500:PRINT31-J:PRINT
690 FORX=0T02000:NEXT
700 PRINT"AGAINST"; :GOSUB3500:PRINTJ; "XO"
705 E=E+((((J*5)/30)*5):E=INT(E)
710 M≈M*(J+30)/60
713 FORX=1T01000:NEXTX:IFJ((36-J)THEN720
715 FORX=250T0120STEP-1:POKES1+2,X:NEXTX:POKES1+2,0
717 PRINT"YOU ARE HEAVILY VOTED OUT SO RESIGN . ": GOSUB9000
719 GOTO2000
720 IFP>INT(RND(0)*4)THEN754
725 PRINT"XXXMAJOR SCANDEL OVER GOVDISORGANISATIONXXX"
740 M=M*10/11:H=H*15/16:E=E*12/13
750 GOSUB9000
754 IFF>INT(RND(0)*4)THEN760
755 PRINT"DAUGHTER ARRESTED IN DRUGS SCANDEL. FINED £5,000."
756 PRINT"MMUCH BAD PUBLICITY ANDFAMILY STRAIN OCCURS"
757 E=E*14/15-INT(RND(0)*5):H=H-INT(RND(0)*4+3):M=M*11/12-INT(RND(0)*3).
758 GOSUB9000
760 IFF+1>INT(RND(0)*4)THEN792
770 PRINT "XXXFAMILY CRISIS LEAKED TO THE MEDIA."
780 PRINT"BAD PUBLICITY OCCURS.X"
790 M=M*3/5:E=E*12/13:H=H+INT(RND(0)*7)-3
791 GOSUB9000
792 IFF>INT(RND(0)*3)THEN800
793 PRINT"XXXYOU MAKE A MISTAKE ON YOUR TAX FORM"
794 PRINT"XXBIG STORY IN A DAILY TABLOID. AWFUL PUBLICITY OCCURS"
795 M≈M*(10/11)
796 E≈E*(12/13)
797 H=H*(25/26)
798 GOSUB9000
799 REM RANDOM EVENTS*
```

```
800 J=INT(RND(0)*10):IFJ=0THEN900
 807 IFJ=8THENGOSUB3000
 810 IFJ=1ANDH>10THEN950
 820 IFJ=5ANDH>15THEN1000
 830 IFJ=6THEN1058
 840 IFJ=7THEN1058
 850 PRINT" TANNOTHING ELSE HAPPENED THIS YEAR MINING"
 855 GOSUB9000
 860 GOTO1200
 900 PRINT"FAMINE IN THE FAR EASTERN"
 910 PRINT"SOO YOU SEND AID? SEN" : POKE198,0
 920 GETA$: IFA$="Y"THEN940
 925 IFA$<>"N"THEN920
 930 E=E*(30-INT(RND(0)*11))/25:M=M*10/9:GOT01200
 940 E=E*(30-INT(RND(0)*21))/25:H=H*13/12:GOT01200
 950 PRINT"FOREIGN REFUGEE CRISISM"
 960 PRINT" WILL YOU ACCEPT ANY OF THE IMMIGRANTS? ( POKE 198, 0
 970 GETA$: IFA$="Y"THEN990
 975 IFA$<>"N"THEN970
 980 E=E*(30-INT(RND(0)*11))/25:M=M*10/9:GOTO1200
 990 E=E*(30-INT(RND(0)*21))/25:H=H*13/12:GOT01200
 1000 PRINT"TIME FOR M.P. PAY RISEN": J=INT(RND(0) #8)
 1020 PRINT"M.P. 'S WOULD LIKE"; J*5+20; "%"
 1030 PRINT"YOTERS WANT"; J*3+5; "%"
 1040 INPUT" MUNHAT DO YOU SUGEST" ; X : E=E-(X-(J*3+5)*2)
 1050 M=M-(J*4)+X:H=H-(J*4+6)+X:GOTO1200
 1058 J=RND(0): IFJC.5THEN1070
 1060 PRINT"TYOUR SUPERIOR BECOMES ILL": GOTO1080
 1070 PRINT"TYOUR SUPERIOR DECIDES TO RETIRE"
 1080 PRINT"WILL YOU TAKE OVER HIS PLACE? ... XXX :: GOSUB9000
 1100 IF(H/1.15)+(M/5)+(T*4)*5>INT(RND(0)*80+40)THEN1120
 1110 PRINT"YOU STAY WHERE YOU ARE"
 1115 POKES1+4,15:FORX≈250T0130STEP-1:POKES1+3,X:NEXTX:POKES1+3,0:GOT01400
 1120 PRINT"YOU SUCCEED AND RISE IN RANK": R=R+1
 1130 POKES1+4,15:FORX=130T0250:POKES1+1,X:POKES1+2,X:NEXTX:POKES1+1,0:POKES1+2,0
 1140 GOTO1400
 1199 REM END OF LOOP**
 1200 IFH>100THENH=100-INT(RND(0)*15)
 1210 IFHCOTHENH=INT(RND(0)*6)
1220 IFE>100THENE=99-INT(RND(0)*14)
1230 IFECOTHENE=INT(RND(0)*3)
 1240 IFM>100THENM=99-INT(RND(0)*5)
1250 IFMC0THENM=INT(RND(0)*10+2)
1260 GOSUB1300:GOT0300
1300 POKES1+4,15:POKES1+5,28:POKES1+2,170:FORX=1T050:NEXTX:POKES1+2,0
1305 E=INT(E):H=INT(H):M=INT(M)
1310 PRINT"MENOTER SUPPORTE"; E; "%"
1320 PRINT"與欄1.P. SUPPORT個";H;"%"
1330 PRINT" XXXXYOUR OWN MORALE RATINGISE" : M; "X"
1340 IFM>INT(RND(0)*25)THEN1370
1350 PRINT"URGH!. YOU DECIDE TO RESIGN FOR PERSONAL REASONS."
1355 GOSUB9005
1360 GOTO2000
1370 GOSUB9005
1380 POKES1+5,29:RETURN
1399 REM RANK*******
1400 PRINT" MYOUR RANK NOW IS: MON"
1403 IFR=OTHENPRINT"DEFEATED CANDIDATE"
1404 IFR=1THENPRINT"BACKBENCHER"
1405 IFR=2THENPRINT"PARLIAMENTARY PRIVATE SECRETARY"
1410 IFR=3THENPRINT"PARLIAMENTARY PERSONAL SECRETARY"
1420 IFR=4THENPRINT"JUNIOR MINISTER"
1430 IFR=5THENPRINT"CABINET MINISTER"
1440 IFR=6THENPRINT"MINISTER FOR DEFENCE"
1445 IFR=7THENPRINT"SECRETARY OF STATE"
1447 IFR=8ANDA1=1THENPRINT"PRIME MINESTER":GOTO1455
1450 IFR=8THENFORN1=1T02:G0SUB4000:NEXTN1
1455 IFA1=1THENA1=0:RETURN
1460 IFRC9THEN1480
                                   13
```

GAMES COMPUTING JANUARY 1984

```
1465 PRINT"PROMOTION TO THE HOUSEOF LORDS. THIS MEANS YOUR CAREER IS OVER. " FOR
                                                                                  1940 PRINT"N 3 ELECTORATE SUPPORTS"
                                                                                  1950 PRINT"N A FACTOR FALLING TO LOW WILL END GAME."
X≈1T04000
                                                                                  1960 PRINT"XXXYOU MAY BE CALLED UPONTO MAKE DECISIONS, ANDFIGHT ELECTIONS, "
1470 NEXTX: GOTO2000
                                                                                  1970 PRINT "NHOW YOU DO WILL AFFECTTHE 3 FACTORS. N"
1480 GOSUB9005
                                                                                  1975 GOSUB9000
1484 GOT01200
                                                                                  1499 REM ELECTION****
1500 POKES1+4,15: PRINT" THOUGHOUT GENERAL ELECTION HASBEEN CALLED"
                                                                                  1985 PRINT"EVERY SO OFTEN YOU GETA PROMOTION CHANCE."
1510 PRINT"MODO YOU WISH TO STANDW": W=800: V=0: POKES1+5,24
                                                                                  1987 PRINT"HOW YOU DO WILL DEPENDON YOUR CURRENT RATING"
                                                                                  1994 PRINT"MIF YOU WANT TO RE-VIEWTHESE INSTRUCTIONS IN A CAME INPUT ##999@ 93
1520 INPUTA$: IFLEFT$(A$,1)="N"THEN2000
1525_PRINT"TIMMAFTER A LONG CAMPAIGN HERE IS YOUR LAST POLL"
1526 PRINT"REMEMBER OPINION POLLSARE UNRELIABLEXXX" GOSUBS000 GOSUBS000
                                                                                  1995 PRINT" MINISTERIAL ALLOCATION"
                                                                                  1996 PRINT"THIS WILL INTERUPT THEGAME TO LET YOU VIEW THEM THEM ALLOW YOU TOCOM
1527 POKES1+5,24:PRINT"TINUMUNDO YOU STILL WISH TO STAND. W" : POKE198,0
1528 INPUTA$: IFLEFT$(A$, 1)="N"THEN2000
                                                                                                  13300D LUCK 128 ": GOSUB9000
1540 Q3=INT(RND(0)*300+100):Q4=INT(RND(0)*400+100):Q5=INT(RND(0)*900+100)
                                                                                  1997 PRINT"N
                                                                                  1098 IFX1=1THENX1=0:RETURN
1545 Q6=INT(RND(0)*700+300)
1548 Q1=INT(A/2+INT(RND(0)*500))
                                                                                  1999. GOTO200
                                                                                  2000 POKES1+5,25:R2=R
1549 Q2=INT(A/2+INT(RND(0)*(A/2)))
1550 Q7=INT((Q1+Q2+Q3+Q4+Q5+Q6+(27000-A))/50000*100)
                                                                                  2010 PRINT"XXXXXYOU LASTEDM"; T; "續YEARS質"
1555 Q8=27000-A
                                                                                  2015 PRINT"NRANK WAS: ":81=1:60SUB1403
1560 PRINT" TWITHE RESULTS ARE JUST COMING IN";
                                                                                  2020 IFTS>0THENPRINT"XXXPRESENT LONGEST TERM WAS"; TS
1565 GOSUB3500
                                                                                  2023 PRINT"XYOUR PREVIOUS HIGHEST APPOINTMENT WAS: ":R=R1:A1=1:GOSUB1403
1577 GOSUB8000
                                                                                  2024 IFR2>R1THENR1=R2
1580 PRINT"X TALLY HO PARTYE"; Q3
                                                                                  2025 IFT>TSTHENTS≈T
1590 GOSUB8000
                                                                                  2027 PRINT" XISPLAY AGAIN (Y/N) C"
1600 PRINT"MFREEDOM PARTY 2" JQ4
                                                                                  2030 GETA$: IFA$="Y"THEN200
1610 GOSUB8000
1620 PRINT" SEBIRTHDAY PARTYET : Q5
                                                                                  2043 IFA$<>"N"THEN2030
                                                                                                                                                     MPROGRAM END
                                                                                  2045 PRINT"。"IUUUUW*************************
                                                                                                                             MUESTMINSTER網 未常
1630 GOSUB8000
1640 PRINT"MLOYALIST PARTYE"; :Q1=Q1+INT(RND(0)*400-100):PRINTQ1
                                                                                  1650 GOSUB8000
                                                                                  2047 POKES1+4, 15: FORL=1T0100
1652 PRINT" CMONARCHY PARTYC" : Q6
                                                                                  2050 POKES1+2, INT(RND(1)*128)+128
1654 GOSUB8000
                                                                                  2051 POKES1, INT(RND(1)*128)+128
1656 PRINT" INFORWARD PARTY 2"; : Q2=Q2+INT(RMD(0)*500-100) .PRINTQ2
                                                                                  2053 FORM=1T010:NEXTM, L:POKES1+2, 0:POKES1, 0
1658 GOSUB8000
                                                                                  2060 POKES1+5,27:END
1660 PRINT" W.I.C. (YOU) 2"; :QS=QS+INT(RND(0)*500-200):PRINTQS
                                                                                  3000 PRINT"NUMP'S REPORT RECCOMENDSTHENCLOSURE OF A LOCALSCHOOL."
1670 GOSUB8000
                                                                                  3010 PRINT WORDO YOU WANT TO STEP INTO STOP THIS? "
1672 PRINT"TURNOUT WAS";Q7;"%"
                                                                                   3020 GETA$: IFA$="Y"THEN3100
1673 IFV≈1THENGOSUB9000:GOT01735
                                                                                   3030 IFA$<>"N"THEN3020
1675 GOSUB8000
                                                                                   3040 PRINT"TIMESCHOOL CLOSES"
1680 IFQ1>Q80RQ2>Q8THEN1700
1690 PRINT"YOU ARE ELECTED MEMBERFOR TALE !"
                                                                                  3050 PRINT"XYOU ARE DAMAGED"
                                                                                  3060 E=E-INT(RND(0)*10+10):M=M-INT(RND(0)*5+5)
1692 GOSUB4005
                                                                                  3070 H=H+INT(RND(0)*15)
1694 GOSUB9000:A=0
1698 GOTO500
                                                                                  3080 GOT03134
                                                                                  3100 PRINT"THIS CHOOL STAYS OPEN."
1700 PRINT"YOU SEEM TO HAVE LOST"
                                                                                  3105 PRINT"THIS COULD ANNOY SOME M.P. 'S"
1705 POKES1+4,15:FORX=250T0130STEP-1:POKES1,X:NEXTX:POKES1,0
                                                                                  3110 H=H-INT(RND(0)*15+5)
1707 IFV=1THEN1735
                                                                                  3120 E=E+INT(RND(0)*5+5)
1710 PRINT"DO YOU WANT A RECOUNT": INPUTA$
                                                                                  3130 M=M+INT(RND(0)*5)
1720 IFLEFT$(A$,1)<>"Y"THEN2000
                                                                                  3134 GOSUB9000
1733 GOTO1740
1735 PRINT" TYOU HAVE FAILED ON ONE RECOUNT. YOU ARE NOT ALLUMED ANOTHER."
                                                                                  3140 RETURN
1736 PRINT"NOWYOU HAVE LOST, AND SO I'M AFRAID YOU MUST GOBACK TO ORDINARY LIFE. W
                                                                                  3500 POKES1+4,15
                                                                                   3505 FORX1=1T010
                                                                                  3510 FORX=1T0300:NEXTX
1738 GOSUB9000:GOTO2000
1740 PRINT"DO.K. HERE GOES, XXX": FORX=1T0900: NEXTX W=800 V=1:00T01560
                                                                                  3515 POKES1,200:POKES1,0
                                                                                  3520 PRINT".";
1800 POKES1+5,31
                                                                                  3530 NEXTX1
1805 PRINT"(THWESTMINSTER GAME RULESG"
                                                                                  3535 FORX≈1T0500:NEXTX
1820 PRINT"YOU START THE GAME AS A BACKBENCHER AND YOURAIM IS TO BECOME PRIMEMIN
                                                                                  3600 RETURN
                                                                                  4000 POKES1+4,15
ISTER
                                                                                  1830 PRINT "NOTO DO THIS YOU DECIDE HOW MUCH TIME TO SPENDON THESE DUTIES: "
1840 PRINT"# 1 MINISTERIAL."
                                                                                   ****
                                                                                  4005 FORX=150T0255:POKES1,X:POKES1+1,X:POKES1+2,X:FORX1=1T040:NEXTX1,X
1850 PRINT" & CONSTITUENCY.
                                                                                   4040 FORX=0T02:POKES1+X,0:NEXTX:RETURN
1860 PRINT" > 3 PARLIMENTARY."
                                                                                   4080 POKES1+3,0:RETURN
1970 PRINT" 4 FAMILY"
                                                                                  4999 REM OPINION POLL*
1880 PRINT "MEYOU HAVE 17 POINTS TO SHARE BETWEEN THESE. M"
                                                                                  5000 POKES1+5,29
4890 GOSUB9000
                                                                                  5005 PRINT"CHENOPINION POLL FOR THE CONSTITUENCY OF TALE. 3"
1910 PRINT"("百餘米米米米米PAGE TUD米米米米米米區"
                                                                                   5010 PRINT"CARRIED OUT BY 'MA.R. 是"
1925 PRINT"YOUR ALLOCATIONS WILL AFFECT 3 QUANTITIES."
                                                                                  5015 A=30000-(E*260)-INT(RND(0)*400)-(R14)+INT(RND(0)*2000-500)
1930 PRINT" 1 PERSONAL MORALE"
                                                                                   5017 IFAC1000THENA=1000+INT(RND(0)*500)
1935 PRINT"# 2 M.P. 'S SUPPURT"
                                                                                   5018 IFA>27000THENA=26000+INT(RND(0)*500)
                                                                                   5020 PRINT"LATEST POLLS SHOW: "
                                                                                   5030 PRINT" XXLOYALISTE";: V1=INT((A/2+INT(RND(0)*500))/46000*100):PRINTV1; "%"
                                                                                   5040 PRINT"減距ORWARD間";:V2=INT((A/2+RND(0)*(A/2))/46000*100):PRINTV2;"%"
                                                                                   5050 PRINT"X篇V.I.C.(YOU)第"):Y3=INT((27000-A)/46000*100):PRINTY3;"%"
                                                                                   5055 PRINT" NOTHERSE";: V4=INT((RND(0)*3000+6000)/46000*100):PRINTV4;"%"
                                                                                   5060 PRINT"就到ON'T KNOWS";100-V1-V2-V3-V4;"%就啊"
                                                      THE PERSON
                                                                                   5070 GOSUB9000
                                                                                   5100 POKES1+5,24: RETURN
                                                                                   7000 X=RND(0):U=0
                                                                                   7010 IFX>.7THENRETURN
                                                                                    7020 PRINT"INN MAJOR STRIKE "HREAT"
                                                                                   7030 J=INT(RND(0)*100)
                                                                                   7050 PRINT"CHANCE OF SETTLMENT"
                                                                                   7060 PRINT" DO YOU WISH TO BECOME INVOLVED? "
                                                                                   7070 GETA$: IFA$="Y"THEN7080
                                                                                    7073 IFA$="M"THENU=2:GOTO7300
                                                                                    7075 GOTO7070
                                                                                   7080 PRINT" MYOU HAVE NOW PUBLICLY INVOLVED YOURSELF.
                                                                                   7090 U=1:GOT07500
                                                                                   7300 PRINT"MYOU HAVE NOW PUBLICALYDENIED ALL INVOLVMENT":U=2
                                                                                   7320 PRINT"YOU MAY BE DAMAGED BY THIS"
                                                                                   7330 E≃E~(J/5)+INT(RND(0)*5):M=M-(J/10):H=H-(J/10)
                                                                                    7500 X=INT(RND(0)*40+J)
                                                                                   7520 PRINT"XXXNEGOTISTIONS GOING ON"
                                                                                    7540 GOSUB9000
                                                                                    7560 IFX>70THENGOT07700
                                                                                    7570 PRINT"THUMNEGOTIATIONS FAILED LONG STRIKE OCCURED"
                                                                                                                             ANY MORE. ":GOTO7740
                                                                                   7600 PRINT"YOU ARE DAMAGED"
                                                                                   7610 M=M-5:E=E-((100-J)/5)
                                                                                    7620 GOTO7740
                                                                                    7700 PRINT"IXXXSTRIKE CALLED OF"
                                                                                   7710 IFU=2THEMPRINT"XYOU ARE NOT INVOLVED SO GAIN NOTHING":GO/U??40
                                                                                   7720 PRINT"NUMOU GAIN AS INVOLVED"
                                                                                   7730 M=M+INT(RND(0)*3+5):E=E+INT(RND(0)*(J/10)+7;
                                                                                    7740 GOSUB9000.
                                                                                    7760 RETURN
                                                                                    7999 REM DELAY LOOP
                                                                                   8000 W=W+300:IFW>2500THENW=2500
                                                                                    8005 FORX=1TOW:NEXTX:PRINT
                                                                                   8010 POKES1+2,220:FORX=1T030:NEXTX:POKES1+2,0
                                                                                   8630 RETURN
                                                                                   9000 POKES1+2,220:FORX=1T0200:NEXT:POKES1+2,0
                                                                                    9005 POKE198/0
                                                                                    9010 PRINT"MHIT BMY KEYE"
                                                                                   9020 GETA$: IFA$=""THEN9020
                                                                                   9030 RETURN
 GAMES COMPUTING JANUARY 1984
```

# MACHINE CODE ARCADE GAMES ON THE BBC MICRO



By Jeremy Ruston, 4 Hornton Place, London W8

This series is designed to help those who wish to start writing commercial type arcade games. The first point to make is that as soon as you enter the market place, you are in competition with games like the Hobbit, Planetoid, Rocket Raider, Zany Kong and many other quality games.

A competitive game has to be written in assembly language. A more limiting factor is that it is extremely difficult to write a game without a disc drive, but is possible to do so without one. This is because the BBC Micro's memory is not large enough to hold a MODE 2 screen, the game object code and the game source code.

Assuming you have a disc drive, the source code of the game should be written in one or more normal BASIC programs. Choose a value of PAGE that leaves enough space above OSHWM for the object code, and then CHAIN the source code files. The assembly will have to be carried out in MODE 7. Finally, use OSCLI to save the object code before attempting to run it. Please note that the author owns a BBC Micro but the series will in future be more generally aimed at other micros. If the above paragraph did not make sense to you, you are not ready to embark on such an ambitious project. You should write a few less ambitious assembly language programs first, in order to gain experience.

### Game Considerations

The above details are secondary to the considerations of the game itself. The game you write should be carefully chosen. You should bear in mind that the public will not fall for Pacman, Defender, Donkey Kong or Missile Command again. Equally, don't think you can sweep the

market with a game embodying the best features of all the above games — punters will see through it, and realise they have already bought your game in the guise of the other four.

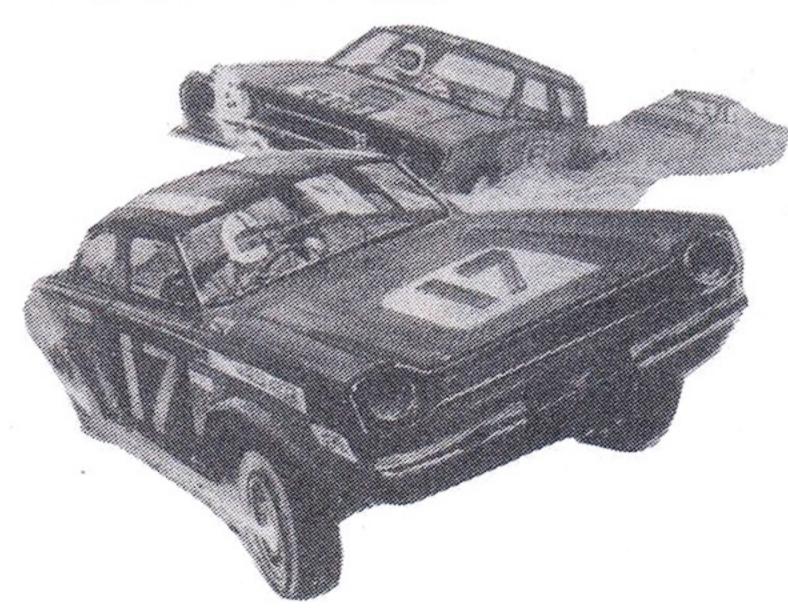
Nowadays, it isn't even enough to think of an amusing scenario and then simply incorporate a few moving shapes into it. In a nutshell, your game must have:

1 A clearly defined aim. For example, the aim in Pacman is simply to eat everything in sight, in Defender to blow up almost everything in sight and in Zany Kong you must rescue the girl at the top of the girder. It is easy to make the mistake of making the aim of the game too unbelievable. For example, trying to rescue a damsel in distress whilst eating

everything in sight and blowing up everything else would make a rather complex and silly game.

2 Some form of retribution must be incorporated should the player fail (death is almost universally popular). This is quite important, since messages like 'You failed in your mission, and so are sentenced to a five second wait before playing again' are puerile. The more awful things that happen, the better!

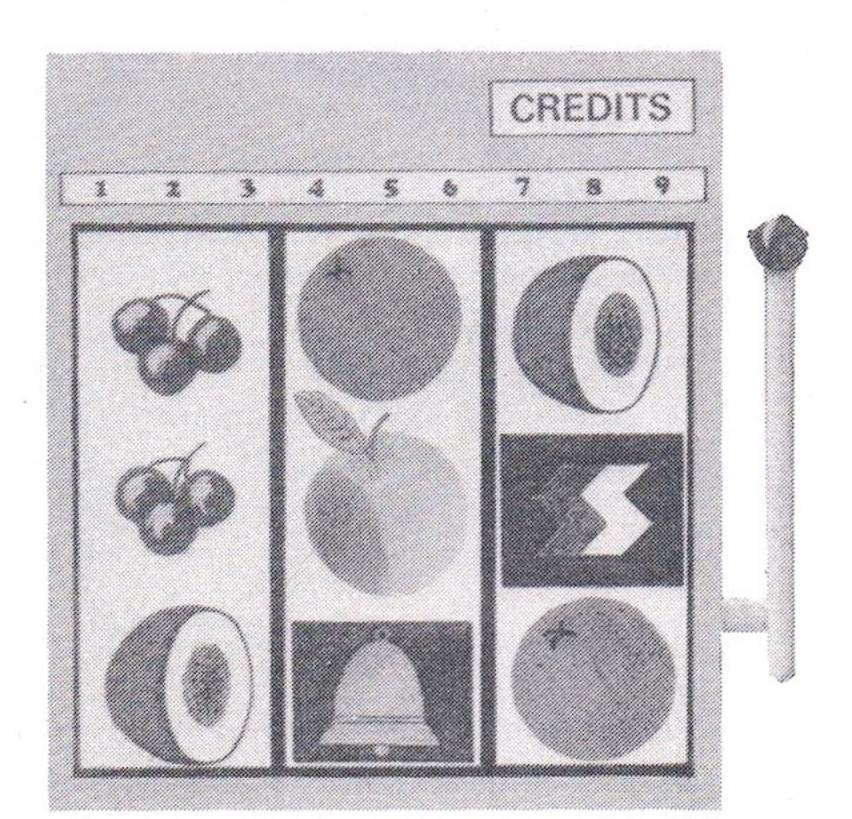
3 Lots of pretty colours and moving shapes. The colours are the first line of attraction at exhibitions. However, don't go over the top. For example the excellent BBC version of Snake Pit, has a large purple and yellow flashing border around the screen for the entire game, not serving any useful purpose except terminally annoying at least one player.



4 Well designed backgrounds and shapes. The graphics design of a game is the aspect that makes you stop in WH Smiths and say 'Wow!', just prior to handing over your cash for the game. Try to make the backgrounds irregular. For example a jagged mountainside as a background looks far more impressive than a series of blocks. Try to make the

background look as if it was hand drawm, rather than computer generated. This seems to be because punters are attached towards the unusual. The more realistic the graphics, the more fun it is to play.

5 Simple controls. If at all possible, make it possible to change the keys used and save a version of the game with the different keys. Joystick control should be optional. Try to make the controls consistent — for example the Acornsoft Missile Base game requires you to press 'space' to go from the first instruction page to the second, but 'return' to go from the second instruction page to the main game — which shows utter idiocy.



6 Interesting, optional, sound effects. Designing sound effects is a task I find incredibly boring, but it is impossible to discount their importance. Try to make the sound effects linked to the game action. For example, the BBC version of Snake Pit asks if sound effects are required, and if they are, simply repeats a channel zero envelope which sounds vaguely like a slithering snake.

Once you have designed the game, go somewhere where you cannot touch the computer to plan the game. This stage should consist of carefully thinking out the way the game operates and how some events trigger off others etc. You needn't write anything down at this stage, but you may find it a help to do so.

Then you are ready to code the game, which will be covered by future articles in this series.

Next month find out the more technical aspects of programming in Machine Code — especially for games programs.

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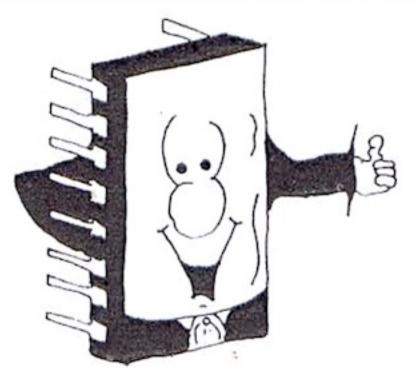
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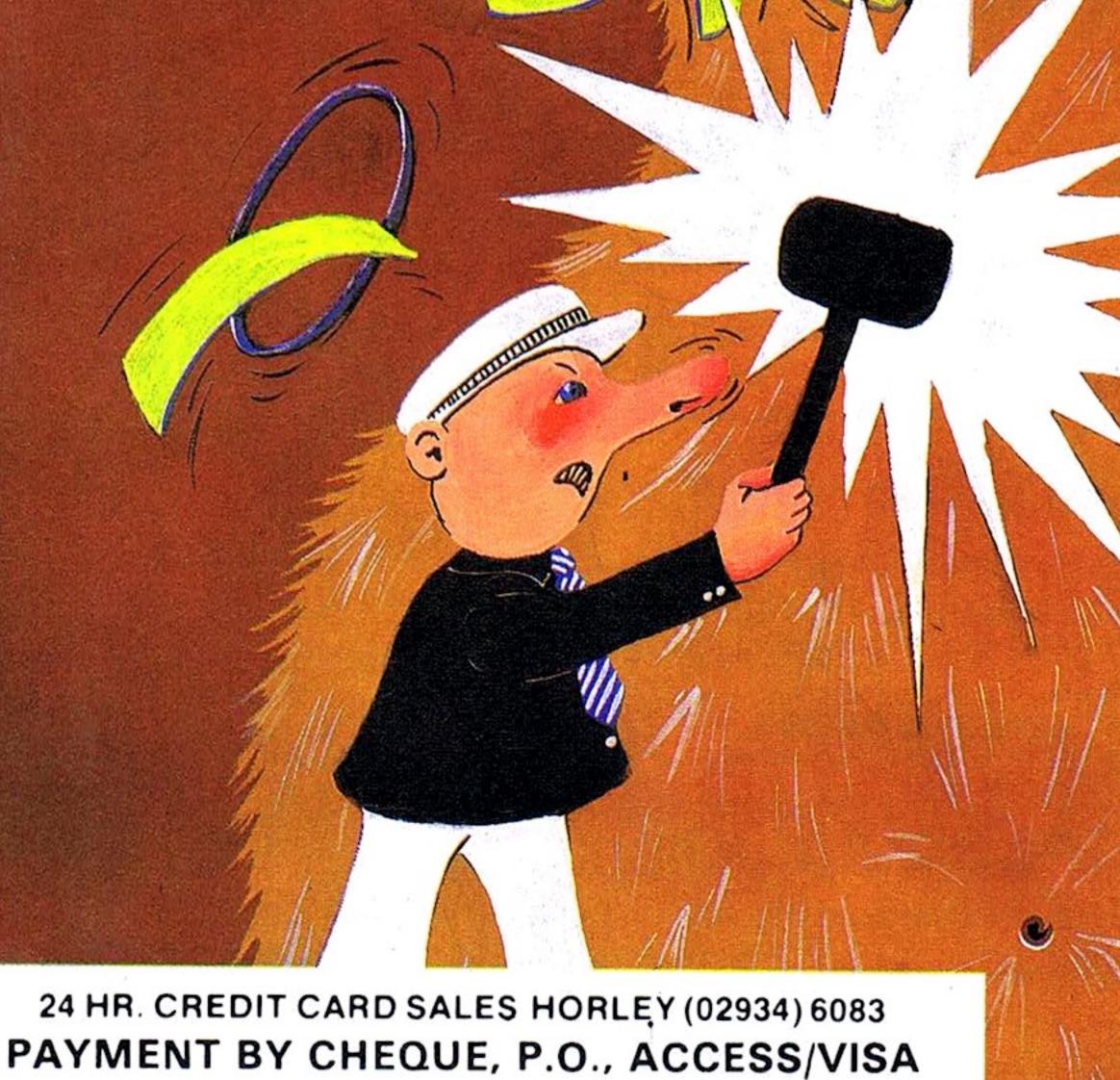
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The winning idea will be judged by the directors of Visions (Sean de Bray, Martin Parmiter, Roz Evitts and Jon Burnham) will subsequently be worked upon by the firm's expert programmers who will transform the game into one which will, hopefully, be a best seller. What you get out of it are the standard royalties paid by Visions to their programmers. This is 12% of the sale of each game. You'll also receive a great Visions T-shirt featuring a flashing fluorescent pink Visions logo on the front with a Games Computing logo on the back — so you'll certainly cut a dash in arcade halls and computer clubs and be the envy of your friends!

Runners up (five in all) will each receive a range of Visions software for the computer of their choice (so does the winner), and a Visions/Games Computing T-shirt of the non-flashing variety.

So all you would-be programmers out there put your thinking cap on and let your imagination run riot.

### Competion Rules

- 1. This competition is open to all UK and Northern Ireland readers of Games Computing, except employees of Argus Specialist Publications Ltd, their printers and distributors, employees of Visions Software Factory or anyone else connected with the competition.
- 2. As long as the correct coupon is used for each entry, there is no limit to the number of entries per person, but photocopies of it won't be accepted.
- 3. All entries must be postmarked before January 31, 1984.
- The prize will be awarded by Visions' judges.
- 5. No correspondence will be entered into with regard to the results of the competition and it is a condition of entry that the Editor's decision is accepted as final.
- 6. The winner will be notified by post and the results will be published in a future issue of Games Computing.

### Original Thinking

tually writing the program!

If you can think up a good idea for a computer game all you need to do to win this competition is write down your game idea (preferably type written) on a sheet of paper and send it to us. Include as much of the game's details as you can, like diagrams of how you see the characters in your game, and the screen layout that you would like to see, the points scoring system and the various phases which you would like to incorporate into the game. REMEMBER that the game you submit to our competition must be original and not a copy of an existing game that you have seen. Also, presentation of your game idea will be taken into account when judging so do your best to submit your entry as neatly as possible.

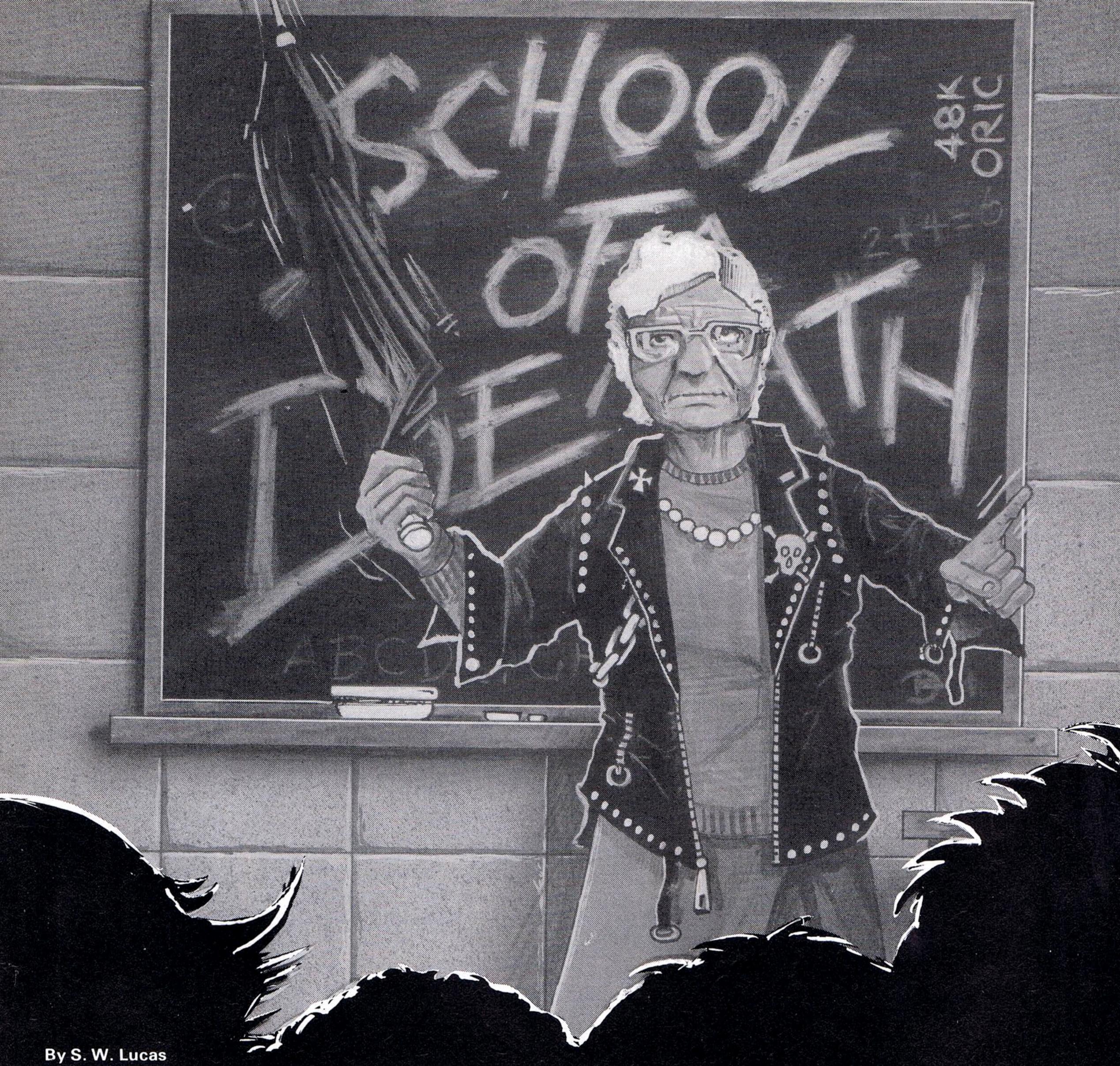
adventure game or any other type of

game that springs to your minds. How

about that for an easy task? You don't

even have to over tax your brain by ac-

Address to: VISIONS/GAMES COMPUTING SOFTWARE COMPETITION
Game type
Game name
Your name (Christian and surname)
Age Tel. No Tel. No
Address
IF YOU DON'T SEND THIS FORM WITH YOUR ENTRY YOU WILL BE DISQUALIFIED FROM THE COMPETITION.



Hello there. My name is Fred and I have been sent to my younger brother's school just before the caretaker is locking up to go home for the night. My mother has given me strict instructions to find the hidden five valuable items, take them to the car park and call her to come and collect them.

There are many dangers to be faced in the school and the task will not be easy.

### Words Understood

E, W, N, S, CLIMB, JUMP, DOWN, SWIM, GET, TAKE, GRAB, USE, IN-SERT, SCORE, THROW, EXAMINE, IN-VENTORY, HELP, PRAY, DROP, LEAVE, QUIT, LOOK, PUSH, SHOOT, ATTACK, KILL, HIT, WAR, GIVE, BUY, READ, EAT, LOAD, CLOAD, SEARCH, KISS, SWEARING. Any of these words can be used to instruct the program and operate the game throughout.

### **Conversion Clues**

Most of the program uses fairly standard BASIC. It should be possible to convert the program fairly easily to run on most machines:

PAPER and INK only change the colour of the display and may be left out altogether. ZAP, PING, SHOOT and EXPLODE produce predefined sounds and may be replaced by almost any short sound effects (or left out altogether).

WAIT could be replaced with a For/Next loop to introduce a short time delay.

REPEAT/UNTIL can easily be replaced by a FOR/NEXT loop.

### RUNdown

Line Effect
40 Calls the TITLES subroutine.

60 Sets pointer for variables.
70-80 Calls subroutine to read locations, treasures and words understood into appropriate arrays.
100-160 Displays current location.

100-160 Displays current location.
180 Displays where you can go.
250 Calls for input.
260-470 Acts upon inputted command

and returns to display at line 100.

### Variables Used

Integer variables are used to save memory space.

P% = current location.

X\$(X) = messages.

V\$(X) =what you are carrying.

S%(X,Y) = where you can go from each location.

AN = FRE("") in line 102 is a garbage collection routine not necessary in some versions of BASIC.

0

Z% = start location.

- 1 REM ++ AN ADVENTURE GAME WRITTEN FOR THE 48 K ORIC 1
- 2 REM ++ BY S.W. LUCAS 1983
- 10 TEXT: PAPER2: INKO
- 20 C%=0:Y%=0:X%=0:J%=0:K%=0:F%=2:M%=0:Z%=2
- 30 DIMQ\$(53),G\$(53),S%(53,4),V\$(3),B%(60,1),N\$(69),N%(69),X\$(61)
- 40 GOSUB2720
- 60 RESTORE
- 70 GOSUB490
- 75 GOSUB2290
- 80 CLS
- 100 PRINT:PRINT:PRINT"I AM":PRINTQ\$(P%):A\$=""
- 101 PRINTCHR\$(B)
- 102 AN=FRE("")
- 110 IFS%(F%, 1)>OTHENAS="NORTH"
- 120 GOSUB2770
- 130 IFS%(P%, 2) >OANDLEN(A\$) >OTHENA\$=A\$+", SOUTH"
- 131 IFS%(P%, 2) >OANDLEN(A\$) =OTHENA\$="SOUTH"
- 140 IFS%(P%,3)>OANDLEN(A\$)>OTHENA\$=A\$+",EAST"
- 141 IFS% (P%, 3) >OANDLEN (As) =OTHENAS="EAST"
- 150 IFS%(F%, 4) >OANDLEN(A\$) >OTHENA\$=A\$+", WEST"
- 151 IFS%(P%, 4) >OANDLEN(As) =OTHENAs="WEST"
- 160 IFS%(P%, 1) = OANDS%(P%, 2) = OANDS%(P%, 3) = OANDS%(P%, 4) = OTHENA = "NOWH
- ERE AT ALL"
- 161 IFB%=1THENA\$="DOWN":S%(P%,1)=0:S%(P%,2)=0:S%(P%,3)=0:S%(P%,4)=0
- 180 PRINT" I CAN GO :-":PRINTA\$
- 200 E=0:FORT=1T051:PP%=0:IFB%(T,1)=P%THENPP%=1
- 210 IFPF%=1THEN230
- 220 NEXT: GOT0250
- 230 IFE=OTHENPRINT:PRINT"THAT LOOKS LIKE"
- 240 PRINTG\$(T):E=E+1:60T0220
- 250 PRINT: INPUT"WHAT SHOULD I DO NOW"; Z\$
- 260 B\$=LEFT\$(Z\$,1)
- 261 C\$=LEFT\$(Z\$,3)
- 270 CLS: IF LEFT\$ (Z\$,2) = "GO"THENPRINT"JUST USE THE FIRST LETTER": GOT
- 0100
- 271 PRINT:PRINT:PRINT"HOLD ON A SEC!":PRINT:PRINT
- 280 IFB\$="N"ANDS%(P%, 1)<>OTHENP%=S%(P%, 1):GOTG100
- 320 IFB\$="W"ANDS%(P%,4)<>OTHENP%=S%(P%,4):GOTO100
- 330 B\$=LEFT\$(Z\$,2)
- 340 IFB\$="S"ANDMID\$(Z\$,2,1)<>"H"ANDS%(P%,2)<>OTHENP%=S%(P%,2):GOTO1

OO.

- 350 IFB\$="SC"THENGOSUB2770:PRINT"YOU HAVE SCORED ";A%;" OUT OF 6":G
- DTD100
- 360 IFB\$="TH"THEN3040
- 370 IFC\$="E"ANDS%(P%,3)<>OANDMID\$(B\$,2,1)<>"X"THENP%=S%(P%,3):SOTO1
- OO
- 380 IFB\$="GE"ORB\$="TA"ORB\$="GR"THEN1550
- 381 IFC\$="CLI"THEN3550
- 385 IFB\$="RE"THEN2940
- 390 IFB\$="FU"ORB\$="FI"THEN2840
- 391 IFC#="DOW"THEN3580
- 395 IFB\$="HE"THEN2270
- 397 IFC\$="SEA"THEN4100
- 400 IFB#="DR"DRB#="LF"DRD#="GIV"THEN1790
- 401 IFC\$="PHO"THEN3900
- 405 IFB\$="QU"THEN3610
- 410 IFC\$="LOO"THEN10000
- 411 IFC\$="KIS"THEN3930
- 415 IFB\$="PR"THEN2890
- 416 IFC\$="LOA"ORC\$="CLO"THEN4000
- 420 IFB\$="PU"THEN3010
- 421 IFC\$="EAT"THEN3700

- 425 IFB\$="AT"ORB\$="HI"ORB\$="KI"THENZAP:GOTO1990
- 430 IFB\$="EX"THEN2060
- 431 IFC\$="SWI"THENCLS: ZAP: PRINT: PRINT: PRINT SWIM? HERE ? What do yo
- u think I am?":GOTO100
- 435 IFC\$="USE"ORC\$="INS"THEN2230
- 440 IFC\$="WEA"THEN3060
- 445 IFC\$="JUM"THEN3500
- 450 IFC\$="INV"THEN2150
- 454 IFC\$="BUY"THEN3800
- 460 K\$=LEFT\$ (B\$, 1)
- 461 IFLEFT\$ (A\$,3) <> "SOR" THENLL=1 ELSELL=0
- 465 IFB\$<>""ANDLL=1ANDK\$<>"S"ANDK\$<>"N"ANDK\$<>"E"ANDK\$<>"W"THENPRIN
- TX\$(60)
- 470 GOTO100
- 480 END
- 490 FORH=1TO51:FORD=1TO4
- 500 READS% (H, D): NEXT
- 520 READQs(H):NEXT
- 530 FORH=1T051
- 540 READG\$ (H), B% (H, 1): NEXT
- 550 FORH=1T069
- 560 READN\$(H), N%(H)
- 565 NEXT
- 570 RETURN
- 580 DATA2,0,0,0,"IN A FISH AND CHIP SHOP"
- 590 DATA4,0,3,0,"ON THE PAVEMENT. THE SCHOOL IS NEARBY"
- 600 DATAO, 0, 5, 2, "IN THE CAR PARK. IT IS FULL OF CARS"
- 610 DATAO, 2, 0, 0, "IN THE SWEETSHOP"
- 620 DATA6, 0, 0, 3, "BY THE SCHOOL'S MAIN ENTRANCE"
- 630 DATA11, 5, 13, 7, "IN THE ENTRANCE HALL"
- 640 DA~A8,0,6,0,"IN THE DINING HALL"
- 650 DATAO, 7, 0, 42, "IN THE KITCHENS"
- 660 DATAO, 0, 10, 0, "IN THE BOYS CHANGING ROOMS"
- 670 DATA43, 11, 17, 9, "IN A GYMNASIUM"
- 680 DATA10, 6, 0, 49, "IN A COVERED PASSAGEWAY"
- 690 DATAO, 13, 0, 0, "IN THE DEPUTY HEAD'S OFFICE"
- 700 DATA12, 15, 14, 6, "IN THE MAIN CORRIDOR"
- 710 DATA17, 16, 22, 13, "IN THE MAIN CORRIDOR" 720 DATA13, 0, 16, 0, "IN THE GENERAL OFFICE"
- 730 DATA14, 28, 0, 15, "IN THE HEADMASTER'S OFFICE"
- 740 DATA18, 14, 0, 10, "IN THE ASSEMBLY HALL"
- 750 DATA47, 17, 0, 0, "ON THE STAGE"





- 760 DATAO, 20, 34, 0, "IN THE PLAYGROUND"
- 770 DATA19, 22, 23, 21, "IN A CORRIDOR"
- 780 DATAO,0,20,0,"IN A CLASSROOM"
- 790 DATA20, 24, 32, 14, "IN A CORRIDOR"
- 800 DATAO, 0, 0, 20, "IN A CLASSROOM"
- 810 DATA22,0,25,0,"IN A CLASSROOM"
- 820 DATAO, 0, 0, 24, "IN THE MATHS STOCKROOM"
- 830 DATAO, 0, 31, 0, "IN THE MUSIC PRACTICE ROOM"
- 840 DATAO, 44, 29, 28, "IN THE SCHOOL LIBRARY"
- 850 DATAO, 0, 27, 16, "IN THE REFERENCE SECTION OF THE
- LIBRARY."
- 860 DATA31,30,41,27,"IN A.LONG CORRIDOR"
- 870 DATA29,0,41,0,"AT THE DOOR OF THE STAFFROOM. "
- 880 DATA32,0,0,0,"IN A CORRIDOR"
- 890 DATA33,31,48,22,"IN A CORRIDOR"
- 900 DATAO,32,0,0,"IN THE GIRL'S TOILETS"
- 910 DATAO, 35.0, 19."IN THE COMPUTER ROOM"
- 920 DATA34,37,0,51,"IN A PHYSICS LABORATORY"
- 930 DATAO,0,0,37,"IN A CHEMISTRY STOCK ROOM"
- 940 DATA35,38,0,0,"IN A PREP ROOM"
- 950 DATA37,0,0,0,"In a quadrangle. It is so icy that I can't go So
- uth!"
- 960 DATA38,0,0~0,"In the Common Room"
- 970 DATAO, 0, 0, 31, "IN THE BOYS TOILETS"
- 980 DATAO,0,0,30,"IN THE STAFFROOM. THERE IS A TELEPHONEHERE."
- 990 DATAO, 0, 8, 0, "BY THE DUSTBINS"
- 1000 DATAO, 10,0,0,"IN THE GIRLS CHANGING ROOMS."
- 1010 DATA27,0,0,0,"IN A LANGUAGE LABORATORY"
- 1020 DATAO, 19, 0, 46, "IN THE WORKSHOPS"
- 1030 DATAO, 0, 45, 0, "IN THE ART ROOM. IT IS FULL OF PAINTINGS.
- 1031 DATAO, 18, 0, 0, "IN A STAGE LIGHTING BOX"
- 1032 DATAO, 0, 0, 32, "IN A COOKERY ROOM"
- 1033 DATA50,0,11,0,"IN THE CARETAKER'S ROOM"
- 1034 DATAO, 49, 0, 0, "IN THE BOILER ROOM"
- 1035 DATAO, 0, 35, 0, "IN A BIOLOGY LABORATORY"
- 1040 RETURN
- 1050 DATA"A TELEPHONE", 41
- 1060 DATA"SOME HISTORY HOMEWORK.", 21
- 1070 DATA"A DRESS",43
- 1080 DATA"A PAIR OF HEADPHONES",44
- 1090 DATA"A PIECE OF MUSIC", 26

- 1100 DATA"A GANG OF THUGS BEATING UP AN OLD LADY", 2
- 1110 DATA"A BAR OF CHOCOLATE", 4
- 1120 DATA"A STRAY DOG",19
- 1130 DATA"A SCHOOL DINNER",7
- 1150 DATA"THE SCHOOL BULLY. HE DEMANDS A BRIBE",31
- 1160 DATA"A PILE OF EXCERCISE BOOKS", 25

1140 DATA"A VAN DE GRAAFF GENERATOR", 35

- 1170 DATA My valuable #WATCH# in the lost property box",12
- 1180 DATA"My brother's solid #SILVER# pencil case", 23
- 1190 DATA"My Girlfriend",38
- 1200 DATA"A PACKET OF CIGARETTES", 4
- 1210 DATA"A LABORATORY TECHNICIAN", 37
- 1220 DATA"A CAGE OF GERBILS", 51
- 1230 DATA"A LARGE MASTER SWITCH", 47
- 1240 DATA"A PAINTING", 46
- 1250 DATA"A HAMMER", 49
- 1260 DATA"A BOTTLE OF HYDROCHLORIC ACID",36
- 1270 DATA"A RAW EGG", 48
- 1280 DATA"A BAKING TRAY", 48
- 1290 DATA"A STEEL BAR", 45
- 1300 DATA"My #ORIC# computer",39
- 1310 DATA"A TOILET ROLL", 40
- 1320 DATA"A PAIR OF SHORTS", 9
- 1330 DATA"A ROPE", 10
- 1340 DATA"A WALL BAR", 10
- 1350 DATA"A BAR OF SOAP",33
- 1360 DATA"SOME CHIPS",1
- 1370 DATA"A ₹5 NOTE ON THE FLOOR",3
- 1380 DATA"A CRICKET TROPHY",6
- 1390 DATA"A JAR OF SODIUM CHLORIDE", 36
- 1400 DATA"A CANE", 16
- 1410 DATA"A REGISTER", 15
- 1411 DATA"A SCHOOL REPORT", 12
- 1412 DATA"AN IRATE TEACHER", 23
- 1413 DATA" MAGAZINE", 27
- 1414 DATA"AN ENCYCLOPEDIA", 28
- 1415 DATA"MY MATHS WORK", 30
- 1416 DATA"A CLOCK",14
- 1417 DATA"A FABLE", 18
- 1418 DATA"A DESK", 21
- 1419 DATATA PACKET OF CRISPS",4
- 1420 DATA"A GOLD FOUNTAIN PEN", 24
- 1421 DATA"A FILE OF RUBBISH", 42
- 1422 DATA"A TAPE RECORDER",44
- 1423 DATA"A MICROCOMPUTER",34
- 1424 DATA"A CASSETTE TAPE", 24
- 1430 DATATELEPHONE, 1, HOMEWORK, 2, HISTORY, 2
- 1435 DATA"DRESS", 3, "HEADPRETURNONES", 4, "MUSIC", 5, "PIECE", 5
- 1440 DATATHUGS, 6, LADY, 6, CHOCOLATE, 7, BAR, 7
- 1445 DATADOG, 8, DINNER, 9, GENERATOR, 10, VAN DE GRAAFF, 10
- 1450 DATABULLY, 11, EXCERCISE, 12, WATCH, 13, BOX, 13
- 1455 DATAPENCILCASE, 14, SILVER, 14, GIRLFRIEND, 15
- 1460 DATACIGARETTES, 16, PACKET, 16, TECHNICIAN, 17
- 1465 DATACAGE, 18, GERBILS, 18, SWITCH, 19, PAINTING, 20
- 1470 DATAHAMMER, 21, ACID, 22, HYDROCHLORIC, 22, BOTTLE, 22
- 1475 DATAEGG, 23, BAKING, 24, TRAY, 24
- 1480 DATASTEEL, 25, BAR, 25, ORIC1, 26, COMPUTER, 26
- 1485 DATATOILET, 27, ROLL, 27, SHORTS, 28, ROPE, 29
- 1490 DATAWALLBAR, 30, SOAP, 31, CHIPS, 32, NOTE, 33

1495 DATATROPHY, 34, SALT, 35, CANE, 36, REGISTER, 37

- 1500 DATAREPORT, 38, TEACHER, 39, MAGAZINE, 40, ENCYCLOPEDIA, 41
- 1505 DATAMATHS, 42, CLOCK, 43, TABLE, 44, DESK, 45, DRAW, 45, CRISPS, 46
- 1510 DATAPEN, 47, RUBBISH, 48, RECORDER, 49, TAPE RECORDER, 49, MICROCOMPUT
- ER,50



1515 DATABBC, 50, CASSETTE, 51

1550 GOSUB2640

1560 IFL%=1THEN1580

1570 GOT0250

1580 E%=0

1590 FORH=1TO51: IFB%(H, 1)=P%ANDB%(N%(R), 1)=P%THENE%=1

1600 NEXT

1610 IFE%=OTHEN250

1620 CLS

1621 IFR=13THENAA=1

1622 IFP%=2ANDR=8ANDAD<>1THENPRINTX\$(3):PING:GOTO100

1623 IFF%=2ANDR=9ANDAD<>1THENFRINTX\$(4):EXPLODE:GOTO3600

1624 IFP%=4AND(R=100RR=110RR=230RR=240RR=62)THENPRINTX\$(3):ZAP:GOTO

100

1625 IFR=47THENAC=1

1626 IFF%=19ANDR=12ANDAE<>1THENPRINTX\$(6):SHOOT:WAIT10:GOTO100

1627 IFP%=19ANDR=12ANDAE=1THENPRINTX\$(7)

1628 IFR=100RR=11THENAB=1

1629 IFR=48THENAF=1

1630 TIFP%=3ANDR=48THENG\$ (33)="A £5 NOTE"

1631 IFF%=41ANDR=1THENPRINT"VANDAL!!: I'LL HAVE NO PART IN SUCH

CTION": GOTO100

1632 IFP%=31ANDR=16THENPRINT"WHAT DO YOU TAKE ME FOR? AN IDIOT?":ZA

P:G0T0100

1633 IFP%=6ANDR=49THENPRINT"YOU MIGHT BE A THIEF, BUT I'M NOT!":PIN

G: GDTD100

1634 IFP%=27ANDR=55THENPRINTX\$(16):SHOOT:WAIT20:PRINTX\$(17):SHOOT:P

%=16:GOTO100

1635 IFP%=36AND(R=310RR=320RR=33)THENG0T03870

1636 IFP%=37ANDR=25THENPRINT:PRINT:PRINT:PRINT:What do you think th

is is? a GAME?":PING:GOTO100

1637 IFP%=38ANDR=22ANDAG<>1THENPRINTX#(24):ZAP:G#(15)="":GOTO100

1638 IFF%=34AND(R=670RR=68) THENZAP: PRINT"I AM ARRESTED FOR STEALING

":GOT03610

1639 IFP%=44AND(R=650RR=66)THENAH=1

1640 IFF%=42ANDR=64ANDAI<>1THENPRINTX#(32):G0T0100

1641 IFP%=42ANDR=64THENPRINTX\$(43):6\$(48)="A KEY"

1642 IFP%=23AND(R=200RR=21)ANDAJ<>1THENPRINTX\$(33):ZAP:PAPER6:INKO:

GOT0100

1643 IFP%=23ANDR=54THENPRINT"Just how am I supposed to do that ?":G

010100

1644 IFP%=35AND(R=140RR=15)THENPRINTX\$(36):PRINTX\$(37):ZAP:GOTO3610

1645 IFP%=21ANDR=60THENPRINT"I'm not stupid you know!":GOTO100

1646 IFP%=18ANDR=59THENPRINT"If you think I'm carrying that FORGET

IT":GOTO100

1647 IFP%=12ANDR=19THENPRINTX\$(40):PING:GOTO100

1648 IFP%=12ANDR=18ANDAK<>1THENPRINTX\$(41):PING:GDTD100

1649 IFF%=12ANDR=18THENG\$(13)="My valuable £WATCH£"

1650 IFP%=330RP%=43THENFRINTX\$ (45):GOTO3610

1651 IFF%=47ANDR=28THENFRINT"IMPOSSIBLE":PING:GOTO100

1740 E%=0

1750 FORD=1TO3: IFV\$(D)=""THENV\$(D)=G\$(N%(R)):E%=1:D=5

1760 NEXT

1770 IFE%=OTHENPRINT"SORRY. MY HANDS ARE FULL !":PING:60T0250

1780 B%(N%(R),1)=0:PING:GOTO100

1790 GOSUB2640

1800 IFL%=1THEN1820

1810 PRINT"I HAVEN'T GOT A "; L\$: ZAP: INK1: PAPER7: GOTO250

1820 E%=0

1830 FORD=1TO3:1FV\$(D)=G\$(N%(R))THENV\$(D)="":E%=1

1840 NEXT

1850 IFE%=1THEN1870

1860 PRINT"I DON'T HAVE IT . WHO'S A SILLY PERSONTHEN?": PING: GOTO10

O

1870 B%(N%(R),1)=F%

1880 CLS

1881 IFAA=1ANDR=13THENAA=0

1882 IFAB=1AND (R=100RR=11) THENAB=0

·1883 IFAC=1ANDR=47THENAC=0

1884 IFP%=2ANDR=12THENPRINTX\$(5):G\$(6)="A #GOLD# PENDANT":S%(2,2)=1

: AD=1

1885 IFP%=2ANDR=12THENN\$(8)="GOLD":N\$(9)="PENDANT":EXFLODE:GOTO100

1886 IFF%=19ANDR=62THENAE=1:PRINTX\$(7)

1887 IFAF=1ANDR=48THENAF=0

1888 IFP%=31AND (R=230RR=24) THEN3860

1889 IFP%=37ANDR=30THENGOT03910

1890 IFP%=38AND(R=100RR=11)THENPRINTX\$(27):G\$(15)="A#PRESENT#":N\$(

22) = "PRESENT"

1891 IFP%=38AND(R=100RR=11)THENAG=1:ZAP:PAPER5:INK4:PRINTX\$(28):G\$(

7)="":GOTO100

1892 IFP%=38ANDR=50THENPRINTX\$(29):S%(38,2)=39:Q\$(38)="In the quadr

angle"

1893 IFP%=38ANDR=50THENG\$(35)="":PING:GOTO100

1894 IF (R=660RR=67) THENAH=0

1895 IFP%=34ANDAH=1AND(R=650RR=66)THENAH=2

1896 IFP%=23ANDR=57THENPRINTX\$(34):AJ=1:PING:G\$(39)="":GOTO100

1897 1FP%=23AND(R=530RR=20RR=3)ANDAJ<>1THENPRINTX\$(35):ZAP

1898 IFR=34THENPRINTX\$(42):G\$(23)="":EXPLODE:GOTO100

1980 6010100

1990 IFP%=2THENPRINT"I'm not doing that!": ZAP:GOTO100

1991 PRINI"ATTACK? you're joking":PING :GOTD100

2050 605UB2640

2070 IFF%=2ANDR=9THENPRINTX\$(1):ZAP:G0T0250

2071 IFF%=2ANDR=8THENFRINTX\$(2):GOT0250

2072 IFF%=37ANDR=25THENPRINTX\$(20):PRINTX\$(21):GOT0100

2073 IFP%=38ANDR=22ANDAG<>1THENPRINTX\$(25):PING:GOTO100

2074 IFP%=34AND(R=670RR=68)THENPRINIX\$(30):GOTO100

2140 PRINT"I can' 7 see anything special ": 60T0100

2150 PRINT:PRINT:PRINT:PRINT"I HAVE:-" 2160 FX=0

2170 FORH=1TO3: IFVs(H) <>""THENPRINTVs(H):F%=1

2180 NEXT

2190 IFF%=OTHENPRINT"NOT A SAUSAGE!!": ZAP: GOTO250

2200 PAPERS: INKO: PING: GOTO250

2230 CLS:PING:PAPER6:INKO:GUSUB2640

2231 IFP%=23ANDR=64THENPRINTX\$(38):GOTO100

2235 IFP%=12 ANDR=64THENPRINTX\$(39):AK=1:GOTO100

2270 CLS:PING:PAPER6:INK4:

2271 IFP%=2THENPRINT:PRINT:PRINT:PRINT"THEY MUST BE FRIGHTENED OF S

2236 PRINT"I'm afraid I just don't understand you" ZAP:GOTO100

OMETHING!"::PING:GOTO100

2272 IFF%=1THENPRINT: FRINT: PRINT: PRINT"THEY LOOK TASTY": PING: GOTO25

2273 IFP%=4THENPRINT:PRINT:PRINT:PRINT"CIGARETTES ARE BAD FOR THE H

EALTH!!!":PING:GOTO100

2274 IFP%=7THENPRINT:PRINT:PRINT:PRINT"COULD THAT BE A RED HERRING FOR DINNER?": ZAP:GOTO100

2275 IFP%=16THENPRINT:PRINT:PRINT:PRINT"I'D WATCH IT IF I WERE YOU!
!":GO~O100

2276 IFP%=30THENPRINT:PRINT:PRINT:PRINT"TELEPHONES CAN BE USEFUL!": 60T0250

2277 IFP%=47THENPRINT:PRINT:PRINT:PRINT"PULL THE SWITCH. I DARE YOU !!":ZAP:GOTO250

2278 IFP%=26THENPRINT:PRINT:PRINT:PRINT"IT'S TOO NOISY HERE !!!":EX

2279 IFP%=34THENPRINT"WHAT DO YOU DO WITH A MICRO?":PING:GOTO100

2280 IFP%=19THENPRINT:PRINT:PRINT:PRINT"I'D FIND SOMETHING QUICKLY"
:GOTO100

2281 IFP%=33THENPRINT:PRINT:PRINT:PRINT"WHAT AM I DOING IN HERE?":G

2282 IFP%=35THENPRINT:PRINT:PRINT:PRINT"WATCH IT!! THOSE THINGS ARE DANGEROUS":EXPLODE:GOTO100

2283 IFP%=18THENPRINT:PRINT:PRINT:PRINT"DO YOU HAVE A SPEACH PREPAR ED?":PING:GOTO250

2284 IFP%=270RP%=28THENPRINT:PRINT:PRINT:PRINT"THERE MUST BE SOMETH

ING TO READ HERE!":GOTO100

2285 IFP%=36THENPRINT:PRINT:PRINT:PRINT"I DON'T KNOW ONE CHEMICAL F
ROM ANOTHER":GOTO100

2286 IFP%=52THENPRINT:PRINT:PRINT:PRINT"PHEW ! IT'S HOT HERE":PING: GOTO100

2287 IFP%=53THENPRINT:PRINT:PRINT:PRINT"SOMETHING USEFUL HERE":PING :60T0100

2288 IFP%=45THENPRINT:PRINT:PRINT:PRINT"WHAT WOULD YOU DO WITH A ST

EEL BAR?: ZAP: GOTO100
2289 PRINT: PRINT: PRINT: PRINT" I'M NOT GOING TO SOLVE THIS FOR YOU

YOU KNOW !!!": ZAP: GOTO250

2290 REM READ COMMENTS

2300 X\$(1)="THE LADY IS CRYING FOR HELP"

2310 X\$(2)="THE THUGS LOOK NASTY. I WOULDN'T FANCYMY CHANCES"

2311 X\$(3)="What do you take me for ? I'm not a shoplifter you kn ow."

2312 X\$(4)="AS I MOVE IN TO HELP, THEY ATTACK ME"

2313 X\$(5)="THE THUGS TAKE FRIGHT. THE LADY DROPS SOMETHING AND RUN S AWAY"

2314 X\$(6)="THE DOG BARKS AND RUNS AWAY. I THINK IT THINKS THIS IS A GAME!"

2315 X\$(7)="IT WOLFS SOME OF THEM. IT IS HAPPY AND I THINK IT WILL

2316 X\$(9)="THE ASSISTANT TAKES MY MONEY AND GIVESME CHANGE"

2317 X\$(8)="THE BULLY GRABS THEM AND RUSHES TO AN AREA BEHIND THE B

2318 X\$(10)="O.K. MY MOTHER ANSWERS. SHE TELLS ME TO MEET HER IN THE CAR PARK"

2319 X\$(11)="My mother answers. I get some earache about not findin q treasures"

2320 X\$(12)="IN THE CAR PARK. MY MOTHER HAS BROUGHTTHE CAR TO COLLE

2321 X\$(13)="I'M SPOILT FOR CHOICE HERE! I CAN'T DECIDE WHERE TO

START"

2322 X\$(14)="The encylopedia falls open at a page about making sal

t"

2323 Y#(15)="I'm not sure if this is a clue?. but it's about E.T.

2323 X\$(15)="I'm not sure if this is a clue?, but it's about E.T. PHONE HOME"

2324 X\$(16)="The librarian accuses me of stealing and takes me to

the head"

COME"

CT ME"

2325 X\$(17)="He gives me a caning and then rushes away to answer the phone"

2326 X\$(18)="AS I REACH FOR THE BOTTLE, IT FALLS TOTHE FLOOR AND BR



2327 X\$(19)="The acid sprays all over me. I don't like this !!! Yo u fool!!"

2328 X\$(20)="She is in the middle of making

something, but c

an't find"

2329 X\$(21)="the hammer. She won't let me into the Chemistry lab"

2330 X\$(22)="She smiles and thanks me for helping her and says that the she's"

2331 X\$(23)="sorry that she has to go."

2332 X\$(24)="She is not pleased with me and storms off in a rage"

2333 X\$(25)="She is very beautiful, but she is inabad mood"

2334 X\$(26)="She slaps me across the face and storms off in a rage"

2335 X\$(27)="She grabs the chocolate, throws a my birthday present on the"

2336 X\$(28)="floor and storms off, still in a bad mood"

2337  $\chi = (29) = "As I scatter it around, the ice melts and I can safely go South"$ 

2338 X\$(30)="It's one of those grotty BBC micros not an ORIC like mine!"

2339 X\$(31)="There doesn't seem to be much here"

2340  $\chi $(32) = "If you think I'm carrying half a ton of smelly rubbis h FORGET IT"$ 

2341 X\$(33)="Sorry, the teacher has locked it in a cupboard"

2342 X\$(34)="The teacher takes it off me and opens the cupboard"

2343 X\$(35)="That makes her MAD! 'WHAT DO I WANT THAT FOR?' she shouts"

2344  $\chi $(36)=$ "I grab hold of the Van de Graaff  $\sim$  generator. I fee I a "

2345 X\$(37)="Bolt of electricity surge through my body!!!!"

2346 X\$(38)="WRONG KEY!"

2347 X\$(39)="The key fits. I open the box"

2348 X\$(40)="It's far too heavy, besides it's not mine to take"

2349 X\$(41)="The box is locked. I can't.open it"

2350 X\$(43)="The rubbish is everywhere"

2351 X\$(42)="the egg breaks. What a mess! it is

everywhere!"

2352 X\$(45)="'WHAT ARE YOU DOING IN HERE?' shouts

s the teacher. I

am expelled"

2353 X\$(46)="It has gone completely dark. I trip over and break m

y neck"

2630 RETURN

2640 Ls="":FORH=1TOLEN(Zs)

2650 IFMIDs(Zs,H,1)=" "THENLS=RIGHTs(Zs,(LEN(Zs)-H)):H=H+60

2660 NEXT

2670 R=0

2680 L%=0:IFLEN(L\$)<2THENRETURN

2690 FORH=1TO69

2695 IFLEFT\$ (N\$ (H), LEN(L\$))=L\$ THENL%=1:R=H

2700 NEXT

2710 RETURN

2720 CLS:PAPER3:INK4:ZAP:WAIT10:ZAP

2730 CLS

2740 PLOT4,5, "THE SCHOOL OF DEATH"

2750 PLOT10, 15, "AN ADVENTURE GAME BY"

2760 PLOT12, 20, "S.W. LUCAS:

2770 A%=0

2780 IFB%(6,1)=3THENA%=A%+1

2785 IFB%(15,1)=3THENA%=A%+1

2790 IFB% (26, 1)=3THENA%=A%+1

2795 IFB%(14,1)=3THENA%=A%+1

2800 IFB%(13,1)=3THENA%=A%+1

2830 RETURN

2840 CLS: PAPER2: INKO: ZAP: PRINT: PRINT: PRINT: PRINT" HOW DARE YOU SPEAK

TO ME LIKE THAT"

2841 PRINT:PRINT:PRINT"APOLOGISE TO ME NOW"

2842 REPEAT

2843 INPUTZ\$

2844 UNTIL LEFT\$ (Z\$, 3) = "SOR"

2845 PRINT"THAT'S BETTER: ":PING:GOT0100

2890 IFP%=17THENCLS: ZAP: PRINT"WELL YOU ARE IN THE ASSEMBLY HALL!!!"

:GOT0100

2891 IFP%=2THENZAP: INKO: PAPER1: PRINT: PRINT: PRINT" I TRY PRAYING BUT

IT DOESN'T HELP": GOTO100

2892 PING: PAPER2: INKO: PRINT: PRINT: PRINT" PRAYING MAY BE GOOD FOR THE

SOUL BUT !!!":GOT0100

2940 GOSUB2640

2941 IFP%=27ANDR=55THENPRINTX\$(15):PIMG:GOTO100

2942 IFF%=28ANDR=56THENPRINTX\$(14):FING:GOTO100

2943 IFP%=27THENPRINTX\$(13):PING:GOTO100

2944 PRINT"There's not much of interest to read here":PING:GOTO100

3000 IFP%=10ANDB%=1THENPRINT:PRINT:PRINT:PRINT"I JUMP FROM ~HE TOP

AND BREAK MY NECK": GOTO3500

3010 IFP%<>47THENPRINT"not at the moment":GOTO100

3011 GOSUB2640

3015 IFR=28THENPRINTX\$(46):PING:GOTO3610

3016 PRINT"PULL WHAT?":PING:GOTO~00

3040 GDSUB2640

3060 PRINT"Now who's being silly ! ":ZAP:GOTO100

3111 6070100

3500 IFP%=10ANDB%=1THENPRINT:PRINT:PRINT:PRINT"I JUMP FROM THE TOP

AND BREAK MY NECK": GOT03600

3510 PRINT:PRINT:PRINT:PRINT"I CAN'T JUMP HERE!":PING:GOTO100

3550 IFP%=10THENQ\$(10)="AT THE TOP OF A ROPE": B%=1: GOTO100

3560 PRINT"DON'T BE STUPID ALL THE TIME": GOTO100

3580 IFP%=10ANDB%=1THENPRINT"O.K. I CLIMB DOWN THE ROPE":5%(10,1)=4

3:5%(10,2)=11

3581 IFP%=10ANDB%=1THENS%(10,3)=17:S%(10,4)=9:Q\$(10)="IN A GYMNASIU

Μ"

3582 IFP%=10[HEN8%=0:60[0100

3583 PRINT"HOW CAN I GO DOWN?":PING:GOTO100

3600 PAPER1: [NK4:PRINT:PRINT:PRINT:PRINT"] AM DEAD !"

3610 PRINT: PRINT"DO YOU WANT TO PLAY AGAIN";

3620 INPUTX#: IFLEFT#(X#,1)="Y"THENRUN

3700 IFAA=1THENPRINI"1 EAT THE RED HERRING. AAAGGGHHH!":SHOOT:GOTO3

600

3630 END

3701 GOSUB2640

3702 IF (R=100RR=11) ANDAB=ITHENPRINT"DELICIOUS": PING: GOTO3710

3703 IFR=47ANDAC=1THENPRINT"THAT WAS DELICIOUS. ":GOTO3710

3704 IFR=62THENPRINT"SORRY CRISPS GIVE ME INDIGESTION":PING:GOTO100

3705 PRINT:PRINT:PRINT"NOT AT THE MOMENT":GOTO100

3710 FORH=1103: IFV\$(H)=G\$(32)THENV\$(H)="":G\$(32)="":NEXT

3711 FURH=1103: 1FV\$ (H) =6\$ (7) THENV\$ (H) ="": 6\$ (7) ="": 6010~00

3712 GOTO100

3800 IFAF<>1THENPRINT"WHAT WITH?":PING:GOTO100

3810 GOSUB2640

3820 IFP%=4AND (R=100RR=110RR=230RR=240RR=62) THEN3840

3830 PRINT: PRINT: PRINT"NOT AT THE MOMENT": PING: GOTO100

3840 PRINTX\$(9)

3841 FORD=1TO3: IFV\$(D)=G\$(33)THENG\$(33)="SOME CHANGE":V\$(D)="SOME C

HANGE": NEXT

3844 N\$ (48) = "CHANGE": PING: GOTO1628

3860 FRINTX\$(8):S%(31,4)=26:S%(31,2)=29:S%(31,3)=40:PING:G\$(11)="":

G\$(16)=""

3861 GOTO100

3870 CLS: EXPLODE: PRINTX\$ (18): WAIT10: PING: PRINTX\$ (19): GOTO3600

3900 IFP%<>41THENPRINT"I'M NOT E.T. you know! I need a phone":PING:

G0T0100

3901 GOSUB2640

3902 IFLEFT\$(L\$,3)<>"HOM" | HENPRINT" I CAN'T REMEMBER THE NUMBER": ZAP

:GOT0100

3903 IFA%<>5THENPRINTX\$(11):ZAP:GOTO100

3904 PING:PRINTX\$(10):GDT05000

3905 Q%(3)=X\$(12):PING:GOTO100

3910 X\$(20)="":X\$(21)="":PRINTX\$(22):PRINTX\$(23):PING

3911 G\$(17)="":S%(37,3)=36:GOTO100

3930 GOSUB2640

3940 IFP%<>38THENPRINT"What is there here to kiss ??": ZAP:PAPER2:IN

KO: GOTO100

3950 IFR=22THENPRINTX\$(26):PING:G\$(15)="":GOTO100

3960 PRINT"Eh?":PING:GOT0100

4000 IFP%<>34THENPRINT"I can't load a tape at the moment!":ZAP:GOTO

100

4005 GOSUB2640

4006 IFAH<>2THENPRINT"I don't have a tape recorder!":GOTO100

4010 IFR<>69THENPRINT"As usual, the tape I have won't load":PING:GO

T0100

4020 PRINT"The program loads. I thought that it going to be anothe

r great game"

4030 PRINT"from SAVERUGAND": PING: PRINT"BUT it isn't."

4040 PRINT"It just displays the message:-"

4050 PRINT"Your task is to rescue the old lady from the thugs, fi

nd the five"

4060 PRINT"items of treasure, phone home for yourparents to collect

you and"

4070 PRINT"load your treasures into your parents car!!!"

4080 ZAP:PRINT:PRINT:PRINT"HINT! What is the chemical that can me

lt ice?":PING:GOTO250

4100 IFP%<>42THENPRINTX\$(31):GOTO100

4110 CLS: PAPER7: INKO: ZAP: PRINT: PRINT: PRINT: PRINT: PRINT: WAIT10: PRINT

"In amongst all the rubbish, "

4120 PRINT:PRINT"I can see a KEY"

4130 G\$(48)="A key in amongst the rubbish":Al=1:N\$(64)="KEY"

4140 GOTO100

5000 PRINT: PRINT: PRINT: PRINT: PRINT "WELL DONE !!!": PRINT: PRINT "YOU HA

VE SOLVED THIS ADVENTURE!"

5001 PING:PRINI"Your parents are in the car park and have collecte

d your treasure"

5002 END

10000 HIRES~ 20000 TEXT:60T0100

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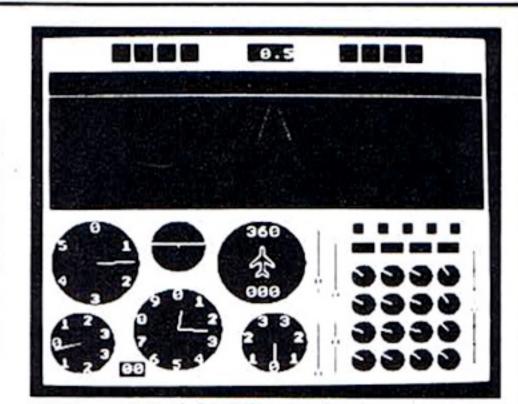
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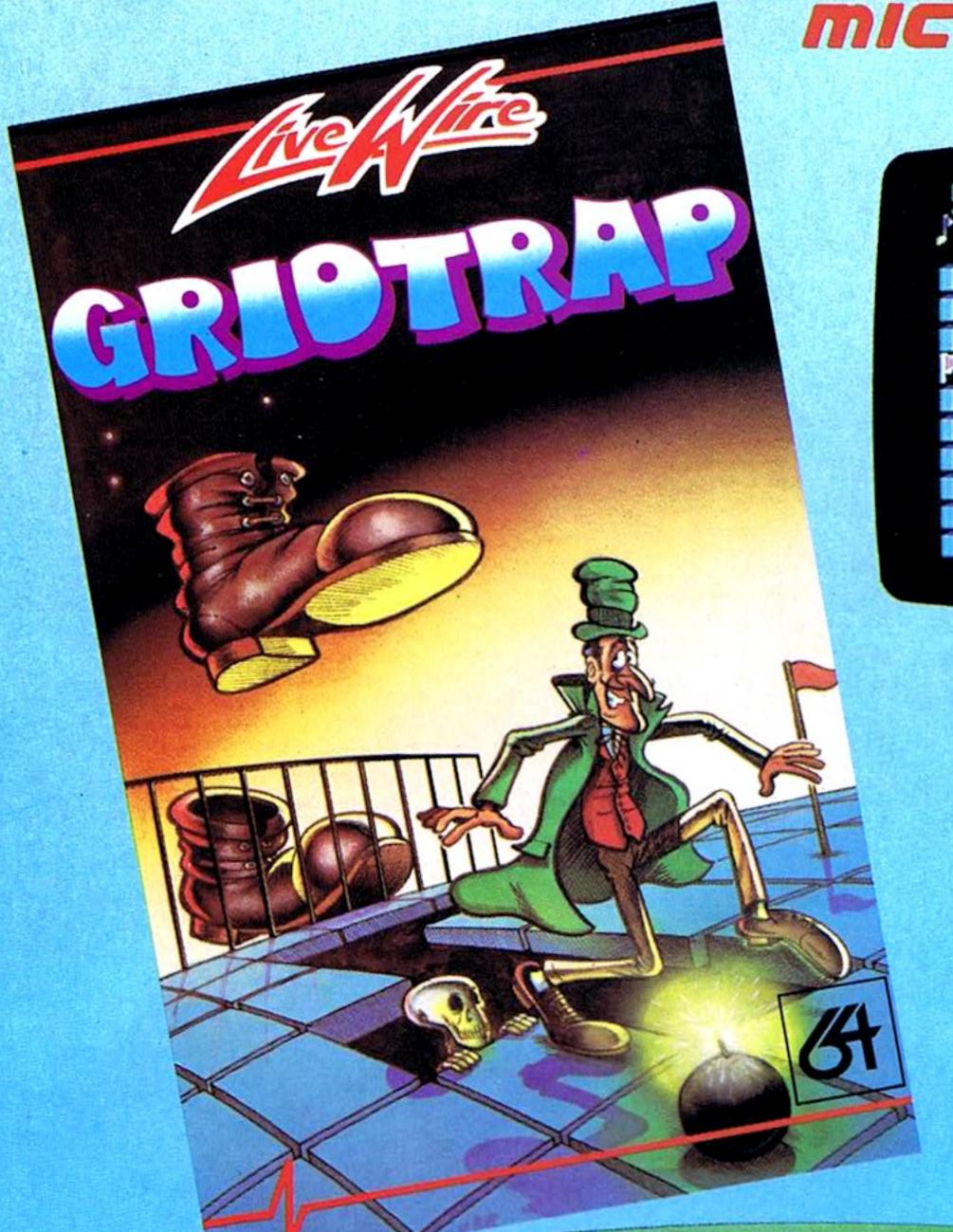
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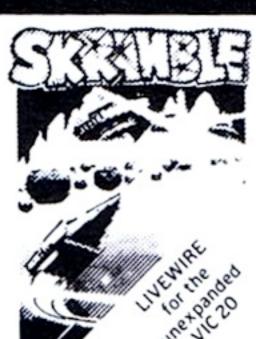
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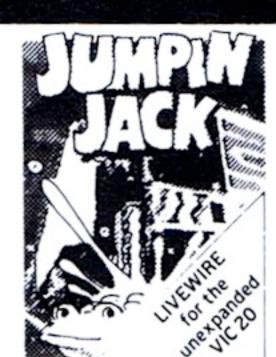
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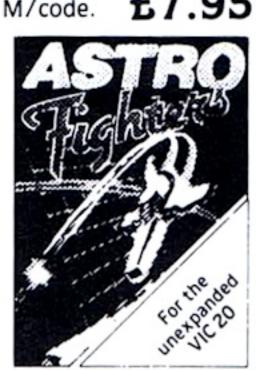
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